

OFFICE OF RESEARCH AND DEVELOPMENT  
DEPARTMENT OF VETERANS AFFAIRS  
June 2005

# COOPERATIVE STUDIES UPDATE

PROGRAM

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CSP

COOPERATIVE STUDIES

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<https://vaww.csp.research.med.va.gov/update/update.cfm>

and on the Internet at

<http://www.vacsp.gov/update/update.cfm>

# ACTIVITY PROFILE

## **Cooperative Studies Program Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<i>In Planning:</i>		
<b>552</b>	A Phase 3, Randomized, Double-Blind, Multi-center, Non-Inferiority Study in Vaccinia-Experience Volunteers of Take Rate, Safety, Tolerability, and Immunogenicity of Three Concentrations: Undiluted, 1.10 Dilution, and 1.30 Dilution	Richard Greenburg, M.D. Univ. of Kentucky School of Medicine 859-323-6327
<b>554</b>	The Gift Program: Brain Banking Consortium	Louis Fiore, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4202  Adityanjee, M.D. Minneapolis VAMC 612-725-2000, ext. 4938
<b>555</b>	Long-Acting Injectable Risperidone in the Treatment of Schizophrenia	Matthew Liang, M.D. MAVERIC, VA Boston HCS 617-232-9500, ext. 4201  Louis Fiore, M.D. MAVERIC, VA Boston HCS 617-232-9500, ext. 4201  Robert Rosenheck, M.D. VA CT HCS 203-937-3850  John H. Krystal, M.D. VA CT HCS 203-937-4790
<b>556</b>	The Effectiveness of rTMS in Depressed VA Patients	Jerome A. Yesavage, M.D. Palo Alto HCS 650-852-3287
<b>557</b>	VA Coronary Artery Revascularization in Diabetes Study – VA CARDS	Masoor Kamalesh, M.D., FACC Indianapolis Roudebush VAMC 317-554-0000, ext. 2081  Thomas Sharp, M.D. Indianapolis Roudebush VAMC 317-554-0000, ext. 2192
<b>558</b>	Robotic Assisted Upper-Limb Neurorehabilitation in Stroke Patients	Albert Lo, M.D., Ph.D. West Haven, VA CT HCS 203-937-4734

## **Cooperative Studies Program**

### **Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b>560</b>	Effectiveness of an Education, Self-Management and Case Management Intervention to Prevent COPD Exacerbations and Hospitalizations	Vincent Fan, M.D., MPH VA Puget Sound HCS 206-764-2292  Dennis Niewoehner, M.D. Minneapolis VAMC 612-725-2000, ext. 4400
<b>561</b>	An Electronic Reminder to Prevent and Treat Glucocorticoid Osteoporosis	Robert A. Adler, M.D. Richmond VA Medical Center 804-675-5424
<b>562</b>	Randomized Trial of Actinic Keratosis Treatment Modalities for the Prevention of Basal and Squamous Cell Carcinoma of the Skin	Louis Fiore, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4202  Martin A. Weinstock, M.D., Ph.D. Providence VAMC 401-457-3333
<b>563</b>	A Placebo Controlled Trial of Prazosin vs Paroxetine in Combat Stress-Induced PTSD Nightmares and Sleep Disturbance	Murray Raskind, M.D. Seattle Institute for Biomedical and Clinical Research 206-768-5304
<b>564</b>	Prophylaxis Versus Preemptive Therapy for CMV in Liver Transplant Recipients	Nina Singh, M.D. Pittsburgh VA HCS 412-688-6179
<b>1022</b>	Phase 2, Double-Blind, Placebo-Controlled Trial of Selegiline Transdermal System (STS) in Combination with Nicotine Replacement Therapy (Patch) as an Aid to Smoking Cessation	Paul J. Fudala, Ph.D. Philadelphia VAMC 215-823-6377
<b>1023</b>	Starting Treatment with Agonist Replacement Therapies	Andrew Saxon, M.D. VA Puget Sound HCS 206-764-2782
<b>1024</b>	A Phase III Randomized, Multi-Center, Double-Blind, Placebo-Controlled, Comparison Study of Safety and Efficacy of Lofexidine vs. Placebo for Relief of Symptoms in Patients Undergoing Inpatient Opiate Detoxification	Charles Gorodetzky, M.D., Ph.D. US WorldMeds Kansas City, MO 816-931-5591

## **Cooperative Studies Program Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b><i>Approved – Awaiting Funding:</i></b>		
<b>501</b>	Veterans Affairs Biorepository Trust	Louis Fiore, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4202
<b>518</b>	S-Adenosyl Methionine Treatment of Alcoholic Cirrhosis	Timothy R. Morgan, M.D. Long Beach VAMC 652-826-5756  William T. Depew, M.D. Hotel Dieu Hospital Kingston, Ontario, CAN 613-544-3400, ext. 2483  Christopher P. Day, M.D. Framlington Place, UK 011-44-167-050-7043
<b>553</b>	Chemotherapy After Prostatectomy (CAP) for High Risk Prostate Carcinoma: A Phase III Randomized Study	Robert Bruce Montgomery, M.D. VA Puget Sound HCS 206-277-6878  Daniel Lin, M.D. VA Puget Sound HCS 206-991-4976 pager
<b>EP 05-01</b>	Heritability of Colorectal Polyps Feasibility Study	Jason A. Dominitz, M.D., MHS VA Puget Sound HCS 206-277-3558
<b>EP 05-02</b>	Epidemiology of Problematic Substance Use Behavior in the Veteran Population	Keith Humphreys, Ph.D. VA Palo Alto HCS 650-493-5000
<b>EP 05-03</b>	Is the Presence of Hepatitis B Virus Core A Predictor of Cirrhosis or Hepatocellular Carcinoma?	George Ioannou, M.D., MS VA Puget Sound HCS 206-277-6662
<b>EP 05-04</b>	Epidemiology of Military Sexual Trauma Among VA Outpatients	Rachel Kimerling, Ph.D. VA Palo Alto HCS 650-493-5000
<b>EP 05-05</b>	Impact of Neighborhood Environment on Health Status and Survival Among Veterans	Karin Nelson, M.D., MSHS VA Puget Sound HCS 206-277-5118
<b>EP 05-06</b>	VA Central Cancer Registry Data Utility Assessment	Dawn Provenzale, M.D., MPH Durham VAMC 919-286-2287

## **Cooperative Studies Program Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b><i>Funded - Organizational</i></b>		
<b>504</b>	Risperidone Treatment for Military Service Related Chronic Post-Traumatic Stress Disorder	John H. Krystal, M.D. VA CT HCS 203-937-4790
		Robert Rosenheck, M.D. VA CT HCS 203-937-3850
<b>546</b>	A Randomized, Multi-center, Double-Blind, Placebo-Controlled Trial of DL-Alpha-Tocopherol and Memantine for the Treatment of Functional Decline In Outpatients With Alzheimer's Disease on Donepezil	Maurice Dysken, M.D. Minneapolis VAMC 612-725-2051
<b>1008</b>	Palo Alto Statistical Center for Development of Medication for Drug Abuse	Philip W. Lavori, Ph.D. VA Palo Alto HCS 650-617-2719
<b><i>Ongoing:</i></b>		
<b>256</b>	Vietnam Era Twin Registry	Edward J. Boyko, M.D., MPH VA Puget Sound HCS 206-764-2830
<b>380</b>	Prospective Evaluation of Risk Factors for Large (>1 cm) Colonic Adenomas in Asymptomatic Subjects	David Lieberman, M.D. Portland VAMC 503-273-5318
<b>403</b>	Trial of Varicella Zoster Vaccine for the Prevention of Herpes Zoster and its Complications – Persistence Sub-Study	Michael Oxman, M.D. San Diego VAHCS 858-552-8585, ext. 4634
<b>407</b>	Prostate Cancer Intervention Versus Observation Trial (PIVOT): A Randomized Trial Comparing Radical Prostatectomy Versus Palliative Expectant Management for the Treatment of Clinically Localized Prostate Cancer	Timothy J. Wilt, M.D., MPH Minneapolis VAMC 612-725-2158
		Michael K. Brawer, M.D. Seattle VAMC 206-368-1191
<b>410</b>	The Iron (Fe) and Atherosclerosis Study (FeAST)	Leo R. Zacharaski, M.D. White River Junction VAMC 802-296-5149

## **Cooperative Studies Program**

### **Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b>424</b>	Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation (COURAGE) Trial	William Boden, M.D. Hartford Hospital 860-545-2880  Robert O'Rourke, M.D. San Antonio VAMC 210-567-4590
<b>453</b>	Homocysteinemia in Kidney and End Stage Renal Disease	Rex Jamison, M.D. Palo Alto HCS 650-493-5000, ext. 65808
<b>465</b>	Glycemic Control and Complications in Diabetes Mellitus Type II	Carlos Abaira, M.D. Miami VAMC 305-324-4455, ext. 3585  William Duckworth, M.D. Phoenix VAMC 602-277-5551, ext. 6802
<b>465-A</b>	Non-Traditional Cardiovascular Risk Factors and Atherosclerosis in Type II Diabetes	Peter Reaven, M.D. Phoenix VAMC 602-277-5551, ext. 6691
<b>465-B</b>	Correlation of Plasma Endothelial Cell (Basic Fibroblast Growth Factor) Activity with Cardiovascular Events in Patients with Diabetes Mellitus Type II	Mark B. Zimering, M.D., Ph.D. East Orange VAMC 908-647-0180, ext. 4426
<b>465-C</b>	Fatty Acid Binding Protein 2 (FABP2) Ancillary Proposal	Angeliki Georgeopoulos, M.D. Minneapolis VAMC 612-725-2000, ext. 5537  Carlos Abaira, M.D. Miami VAMC 305-324-4455, ext. 3585  William Duckworth, M.D. Phoenix VAMC 602-277-5551, ext. 6802
<b>465-D</b>	Markers Mechanisms of Vascular Disease in Type II Diabetes	Maria S. Lopes-Virella, M.D., Ph.D. Charleston VAMC 843-789-6716

## **Cooperative Studies Program Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b>468</b>	A Comparison of Best Medical Therapy and Deep Brain Stimulation of Subthalamic Nucleus and Globus Pallidus for the Treatment of Parkinson's Disease	Kenneth Follett, M.D., Ph.D. Iowa City VAMC 319-356-2771
		Matthew Stern, M.D. Philadelphia VAMC 215-829-6500
		Frances Weaver, Ph.D. Hines VA Hospital 708-202-8387, ext. 25866
<b>474</b>	Radial Artery vs. Saphenous Vein Grafts in Coronary Artery Bypass Surgery	Steve Goldman, M.D. Tucson VAMC 520-629-4624
		William Holman, M.D. Birmingham VAMC 205-934-3853
		Gulshan Sethi, M.D. Univ. of Arizona Med Center 520-626-6339
<b>476</b>	Enhancing the Quality of Informed Consent (EQUIC)	Jeremy Sugerman, M.D., MPH, M.A. Johns Hopkins University 410-955-3119
		Philip W. Lavori, Ph.D. VA Palo Alto HCS 650-617-2719
<b>478</b>	Genetic Tissue Banking in VA Clinical Research: A Cooperative Studies Program Demonstration Project	Philip W. Lavori, Ph.D. VA Palo Alto HCS 650-617-2719
		Heidi Krause-Steinrauf, M.S. TrialNet, George Washington Univ. 301-881-9260, ext. 8044
<b>481</b>	Trial of Home-Based PT-INR Monitoring (THINRS)	David Matchar, M.D. Durham VAMC 919-286-3399
		Alan Jacobson, M.D. Loma Linda VAMC 909-583-6222

## **Cooperative Studies Program Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b>488</b>	Prevalence of Hepatitis C Infection in Veterans	Edward J. Boyko, M.D., MPH VA Puget Sound HCS 206-764-2830  Jason A. Dominitz, M.D., MHS VA Puget Sound HCS 206-277-3558
<b>494</b>	A Randomized Clinical Trial of Cognitive Behavioral Treatment for PTSD in Woman Veterans	Matthew J. Friedman, M.D., Ph.D. White River Junction VAMC 802-296-5132  Paula Schnurr, Ph.D. White River Junction VAMC 802-296-5132  Charles Engel, Jr., M.D., MPH Uniformed Services University 202-782-8064
<b>498</b>	Open Versus Endovascular Repair (OVER) Trial for Abdominal Aortic Aneurysm	Frank Lederle, M.D. Minneapolis VAMC 612-725-2158
<b>499</b>	Selenium Vitamin E Cancer Prevention Trial (SELECT)	J. Michael Gaziano, M.D., MPH MAVERIC, VA Boston HCS 627-232-9500, ext. 4108
<b>499A</b>	ACTIVE Health	J. Michael Gaziano, M.D., MPH MAVERIC, VA Boston HCS 627-232-9500, ext. 4201
<b>500A</b>	National Registry of Veterans with ALS	Eugene Oddone, M.D., MHSc Durham VAMC 919-286-6936
<b>500A Substudy</b>	National Registry of Veterans with ALS – DNA Bank Substudy	Eugene Oddone, M.D., MHSc Durham VAMC 919-286-6936
<b>505</b>	Millennium Cohort Study	Edward J. Boyko, M.D., MPH VA Puget Sound HCS 206-764-2830  LCDR Margaret Ryan, M.D. MPH San Diego Naval Health Research Center 619-553-9967

## **Cooperative Studies Program Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b>512</b>	A Tri-National (USA, Canada, UK) Randomized Controlled Trial to Determine the Optimal Management of Patients with HIV Infection for Whom First and Second- Line Highly Active Anti-Retroviral Therapy has Failed	Sheldon Brown, M.D. Bronx VAMC 718-584-9000, ext. 6666  Mark Holodniy, M.D. VA Palo Alto HCS 650-852-3408
<b>517</b>	Outcomes Following Myocardial Revascularization: On and Off Cardiopulmonary	Frederick Grover, M.D. Denver VAMC 303-399-8020  Dimitri Novitzky, M.D. Tampa VAMC 813-972-2000, ext. 6536  Laurie Shroyer, Ph.D. Denver VAMC 303-399-8020, ext. 2678
<b>519</b>	Integrating Practice Guidelines for Smoking Cessation Into Mental Health Care for Posttraumatic Stress Disorder	Miles McFall, Ph.D. VA Puget Sound HCS 206-764-2782  Andrew J. Saxon, M.D. VA Puget Sound HCS 206-764-2782
<b>526</b>	<b>DITPA</b> , A Thyroid Hormone Analog to Treat Heart Failure: Phase II Trial	Steve Goldman, M.D. Tucson VAMC 520-629-4624  Eugene Morkin, M.D. Univ. of Arizona Med Center 520-626-4144  Madeline McCarren, Ph.D. Hines VAMC 708-202-5783
<b>530</b>	Intensive vs. Conventional Renal Support in Acute Renal Failure	Paul Palevsky, M.D. VA Pittsburgh HCS 412-688-6000, ext. 5932
<b>535</b>	Anabolic Steroid Therapy on Pressure Ulcer Healing in Persons with SCI	William Bauman, M.D. Bronx VAMC 718-584-9000, ext. 5428  Ann M. Spungen, Ed.D. Bronx VAMC 718-584-9000, ext. 5814

## **Cooperative Studies Program**

### **Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b>551</b>	Rheumatoid Arthritis: Comparison of Active Therapies in Patients with Active Disease Despite Methotrexate Therapy	James O'Dell, M.D. Omaha VAMC 402-559-7288  Mary T. Brophy, M.D., MPH MAVERIC, Boston HCS 617-232-9500, ext. 4201  Edward Keystone Mount Sinai Hospital, Canada 416-589-8646
<b>710B/711</b>	NAS/DLS – Normative Aging Study/Dental Longitudinal Study	Pantel Vokonas, Ph.D. VA Boston HCS 617-232-9500, ext. 6400  Louis Fiore, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4201
<b>716B</b>	The 80+ Hemorrhagic Cohort Study	Mary T. Brophy, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4201  Louis Fiore, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4201
<b>719B</b>	Prospective Cohort of Early Stage Prostate Cancer	J. Michael Gaziano, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4201
<b>730</b>	Clinical Predictors and Genetic Factors Which Increase the Risk of Adverse Reactions and Efficacy of HMG-CoA Reductase Inhibitors	Richard Scranton, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4782  J. Michael Gaziano, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4201
<b>736</b>	The Effect of Aging on Cardiovascular Risk Factors	Thomas Bowman, M.D. MAVERIC, VA Boston HCS 617-232-9500, ext. 4201

## **Cooperative Studies Program Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b>1021</b>	Double-Blind, Placebo-Controlled Multi-Center Trial of Baclofen for the Treatment of Cocaine Dependence	Ahmed Elkashef, M.D. NIDA, Bethesda, MD 301-443-5055  Paul J. Fudala, Ph.D. Philadelphia VAMC 215-823-6377
<b>97-010</b>	Seattle ERIC	Edward J. Boyko, M.D., MPH VA Puget Sound HCS 206-764-2830
<b>ERIC 601</b>	Pharmacoepidemiology	Louis Fiore, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4201
<b>ERIC 601</b>	Epidemiology of Aging	Elizabeth Lawler, MPH, Ph.D. MAVERIC, VA Boston HCS 617-232-9500, ext. 6165  J. Michael Gaziano, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4201
<b>ERIC 601</b>	Mental Health: Impact of Military Stressors Across the Life Course	Brett Litz, Ph.D. MAVERIC, VA Boston HCS 617-232-9500, ext. 4131  Daniel W. King, Ph.D. VA Boston HCS 617-232-9500, ext. 4938  Lynda A. King, Ph.D. VA Boston HCS 617-232-9500, ext. 4398  Louis Fiore, M.D., MPH MAVERIC, VA Boston HCS 617-232-9500, ext. 4201
<b>EP 04-01</b>	Melanoma Chemoprevention with Statins: VA Case Control Study	Robert P. Dellavalle, M.D., Ph.D. University of Colorado Health Sciences Center 303-313-8020
<b>EP 04-02</b>	Differences in Immunity After Remote Smallpox Vaccination Among Veterans With and Without HIV Infection	Virginia Kan, M.D. WA DC VA Medical Center 202-745-8301

## **Cooperative Studies Program Study Status List**

<b>CSP#</b>	<b>STUDY#</b>	<b>CHAIRPERSON</b>
<b>EP 04-03</b>	Post-Traumatic Stress Disorder and Depression Increase the Prevalence of Health Risk Behaviors and Substance Use in Veterans with Diabetes	Scott Michael, Ph.D. VA Puget Sound HCS Mental Health 206-277-4386
<b>EP 04-04</b>	Prevalence of Obesity in Association with Sedentary Lifestyles and Poor Nutritional Intake Among a National Probability Sample of Veterans	Karin Nelson, M.D., MSHS VA Puget Sound HCS 206-277-5118
<b>EP 04-05</b>	Mortality and Causes of Death Among Vietnam Veterans With and Without Posttraumatic Stress Disorder	Craig Rosen, Ph.D. VA Palo Alto HCS 650-493-5000
<b>EP 04-06</b>	Determining the Sensitivity, Specificity, and Positive Predictive Value for Dementia of a Six-Item Cognitive Screen in a VA Population	Valerie Smith-Gamble, M.D. Indianapolis Roudebush VAMC 317-554-0000, ext. 5705
<b>EP 04-07</b>	Probability-Based Approaches to the Analysis of Nosocomial Infections	Elaine S. Walker, Ph.D. James H. Quillen Mountain Home VAMC 423-439-8089
<b>P067</b>	Double-Blind, Secondary Prevention Of Small Sub-Cortical Strokes (SPS#3) Trial: A Randomized, Multi-Center, Double Blind, Placebo Controlled Clinical Trial that Will Define Efficacious Therapies For Cerebral Small Artery Disease and its Two Most Common Clinical Manifestations: Small Sub-Cortical Strokes and Cognitive Decline	Oscar Benavente, M.D. University of Texas San Antonio 210-592-0404
<b>P081</b>	Action To Control Cardiovascular Risk in Diabetes (ACCORD) Trial: A Randomized, Multicenter Trial that will Collect Definitive Data on the Effects of Intensive Control of Glycemia and Other Cardiovascular Disease Risk Factors on Cardiovascular Disease Event Rates in Type 2 Diabetic Patients	Denise Simons-Morton, M.D. NHLBI 301-435-0384

# CSP PUBLICATIONS

## CSP #710B/711

### NAS/DLS

Normative Aging Study (NAS)/Dental Longitudinal Study (DLS) have adopted two objectives for the next 5-year funding cycle: conduct integrative, cross-disciplinary research on aging, health and disease; educate and train the next generation of research scientists and clinicians in geriatrics, gerontology, and epidemiology of aging.

There are currently 17 grants funded involving the NAS/DLS cohort (including 7 VA grants), 5 pending, and 8 in preparation. Since 1977, a total of 95 grants have been submitted to VA, NIH, and other governmental and private sources; 43 (45% have been funded).

Since becoming a part of MAVERIC in 1977, NAS/DLS investigators have published 142 papers (and 12 in press and 17 submitted for publication), 34 chapters (and 2 in press), and presented approximately 225 abstracts.

### Cumulative Lead Exposure and Prospective Change in Cognition Among Elderly Men

MARC G. WEISSKOPF, ROBERT O. WRIGHT, JOEL SCHWARTZ, AVRON SPIRO III, DAVID SPARROW,  
ANTONIO ARO, HOWARD HU

**Abstract:** Lead exposure has been found to affect cognitive function in several different populations. Whether chronic low-level environmental exposure to lead results in cognitive decline among adults has not been examined. The authors assessed the relation between biomarkers of lead exposure and change in Mini-Mental State Examination (MMSE) scores in the Normative Aging Study, a cohort of elderly US men. Bone lead was measured with K-shell ray fluorescence. A total of 466 men aged 67.4 (standard deviation, 6.6) years took the MMSE on two occasions that were an average of 3.5 (standard deviation, 1.1) years apart during the period 1993-2001 and had bone lead concentrations measured during the period 1991-2002. A one

interquartile range (20 µg/g of bone mineral) higher patella bone lead concentration was associated with a change in MMSE score of -0.24 (95% confidence interval: -0.44, -0.05) after adjustment for age, education, smoking, alcohol intake, and time between MMSE tests. This effect is approximately equivalent to that of aging 5 years in relation to the baseline MMSE score in study data. The association with tibia lead was weaker and that with blood lead was absent. The data suggest that higher patella bone lead levels, a marker of mobilizable accumulated lead burden, are associated with a steeper decline over time in performance of the MMSE test among nonoccupationally exposed elderly men.

*(Am J Epidemiol 160:1184-1193, 2004)*  
MAVERIC Boston, MA

## **Change in Life Satisfaction During Adulthood: Findings from the Veterans Affairs Normative Aging Study**

DANIEL K. MROCEK, AVON SPIRO III

**Abstract:** Change in life satisfaction was modeled over a 22-year period in 1,927 men. A curvilinear relationship emerged. Growth-curve models indicated that life satisfaction peaked at age 65 and then declined, but showed significant individual differences in rate of change. Extraversion predicted variability in change, with higher levels associated with a high and flat life satisfaction. Proximity to death was

associated with a decline in life satisfaction. On measurement occasions that were within 1 year before death, trajectories showed steeper decline, and this effect was not attributable to declines in self-rated physical health. The findings are at odds with prior (cross-sectional) research showing that subjective well-being improves with aging.

*(J Personality and Social Psychology 88(1):189-202, 2005)*  
MAVERIC Boston, MA

## **Structural Modeling of Dynamic Changes in Memory and Brain Structure Using Longitudinal Data from the Normative Aging Study**

JOHN J. MCARDLE, FUMIAKI HAMGAMI, KENNETH JONES, FERENC JOLESZ, RON KIKINIS,  
AVON SPIRO III, MARILYN S. ALBERT

**Abstract:** This is an application of new longitudinal structural equation modeling techniques to time-dependent associations of memory and brain structure measurements. There were 225 participants aged 30-80 years at baseline who were measured again after a 7-year interval on both the lateral ventricular size and Wechsler memory score. Multiple regression analyses show nonlinear associations with age but no relationships among longitudinal changes. Mixed-effects latent growth

curve analyses and analyses based on latent difference scores indicate that longitudinal changes in both variables are reasonably well described by an exponential or dual change model. Bivariate dynamic structural equation modeling analyses indicate age-lagged changes operate in a coupled-over-time fashion, with the brain measure (lateral ventricular size) as a leading indicator in time of memory (Wechsler memory score) declines.

*(J Gerontology 59B (6): 294-304, 2004)*  
MAVERIC Boston, MA

## CSP #97-010

### Alcohol Use

Iron is an important mineral for many reasons. One primary role of iron is to help red blood cells deliver oxygen throughout the body. While low iron levels can lead to anemia, a shortage of red blood cells, too high levels can also cause iron overload and other types of disease. In this study, data was obtained from the Third National Health and Nutrition Examination Survey, a large scale study of the US population, in order to determine if alcohol consumption was related to levels of iron in the blood. Nearly 16,000 adults completed a survey about their alcohol use and had blood drawn to determine iron levels. Compared with nondrinkers, those who consume more than 2 alcoholic drinks per day have significantly elevated markers of iron overload. Those who drink alcohol were less likely to have anemia associated with low iron levels.

### The Effect of Alcohol Consumption on the Prevalence of Iron Overload, Iron Deficiency, and Iron Deficiency Anemia

IOANNOU GN, DOMINITZ JA, WEISS NS, HEAGERTY PJ, KOWDLEY KV

**Abstract:** *Background & Aims:* Our aim was to investigate the relationship between alcohol consumption and iron overload, iron deficiency, or iron deficiency anemia in the U.S. population.

*Methods:* Adult participants of the Third National Health and Nutrition Examination Survey who did not consume alcohol (n = 8839) were compared with participants who consumed < or =1 (n = 4976), >1 to < or =2 (n = 1153), or >2 (n = 915) alcoholic drinks/day during the preceding 12 months. We examined the following markers of iron overload: elevated serum transferrin-iron saturation (TS) level (>45%, >50%, and >60%), elevated serum ferritin level (>300, >400, >500, and >600 ng/mL), and combinations of both elevated serum TS and ferritin levels. Iron deficiency was defined as the presence of at least 2 of the following: serum ferritin level <12 ng/mL, serum TS level <15%, and

erythrocyte protoporphyrin level >1.24 micromol/L. Iron deficiency anemia was defined as the presence of both iron deficiency and anemia.

*Results:* Compared with nondrinkers, the prevalence of all markers of iron overload was significantly elevated among those who consumed >2 alcoholic drinks/day after adjusting for potential confounders. Consumption of any amount of alcohol was associated with a 40% reduction in the risk of iron deficiency anemia.

*Conclusions:* Consumption of up to 2 alcoholic drinks/day seems to be associated with reduced risk of iron deficiency and iron deficiency anemia without a concomitant increase in the risk of iron overload. Consumption of >2 alcoholic drinks/day is associated with a significant elevation in the risk of iron overload.

(*Gastroenterology* 126:1293-1301, 2004)  
ERIC Seattle, WA

## CSP 729D

### Understanding Racial Variations in the Pharmacological Treatment of Osteoarthritis

This study was a pilot study conducted by researchers at the Durham VA Medical Center. Approximately 23% of veterans report having some type of arthritic condition, with osteoarthritis (OA) being by far the most common. The primary objective of the study was to understand factors underlying racial variations in analgesic/anti-inflammatory medication use within the Durham VA.

The articles described below present results from the study regarding racial differences in analgesic/anti-inflammatory medication use and adherence among patients with OA.

#### Racial Differences in Analgesic/Anti-Inflammatory Medication Use and Perceptions of Efficacy

KELLI L. DOMINICK, PhD, HAYDEN B. BOSWORTH, PhD, JASON B. HSIEH, MPH, BARRY K. MOSER, PhD

**Abstract:** *Background and Objective:* Pharmacology is a key component to osteoarthritis (OA) treatment. Research has shown important racial differences in pain thresholds and perceptions, but little is known about racial variations in responses to pain medications. The purpose of this study was to compare perceptions of efficacy of pain medications among African-American and Caucasian veterans with OA.

*Methods:* Participants (N=202; 70% Caucasian, 30% African-American) were under care for OA within the VA healthcare system. Participants rated the helpfulness of current analgesic/anti-inflammatory medications (scale of 1—not at all helpful to 10—very helpful).

*Results:* The mean rating of medication helpfulness was 6.1.

African-American participants reported significantly greater ratings of medication helpfulness than Caucasians (6.6 vs. 5.9), controlling for demographics, disease severity, total number of analgesic/anti-inflammatory medications being taken, and the class of the medication.

*Conclusion:* African-Americans had somewhat more favorable perceptions of medication helpfulness than Caucasians. However, overall ratings of medication helpfulness were relatively low. Further research is needed to examine whether modifiable factors (such as low dosing or patient non-adherence to prescription instructions) contribute to perceptions of poor efficacy.

(*J Natl Med Assoc* 96:928-932, 2004)  
ERIC Durham, NC

## Racial Differences in Analgesic/Anti-Inflammatory Medication Adherence Among Patients with Osteoarthritis

KELLI L. DOMINICK, PHD, YVONNE M. GOLIGHTLY, PT, HAYDEN B. BOSWORTH, PHD

**Abstract:** *Objectives:* This study examined the prevalence of self-reported adherence to medications for osteoarthritis (OA) and racial differences in adherence.

*Methods:* One quarter of participants reported sometimes forgetting to take their OA medication, 16% were sometimes careless about taking medications, and 27% sometimes stopped taking their medications when they felt better. Overall, 44% of participants reported at least one of these three behaviors. In a multi-

variable logistic regression model adjusting for demographic factors, OA severity, participatory decision making (PDM), and side effects, Black patients were more likely to report at least one nonadherent behavior (odds ratio [OR]=2.25, 95% CI=1.03-4.91). Patients with greater PDM scores were slightly less likely to report nonadherent behavior (OR=0.95, 95% CI=0.91-0.99).

*Discussion:* Additional research is needed to examine factors underlying racial differences in adherence, to guide effective interventions.

(*Ethn Dis* 15:116-122, 2005)  
ERIC Durham, NC

## CSP #97-010

### Knee Pain

Individuals who have lost one of their legs to trauma may have increased risk of knee pain or arthritis in their intact limb as compared to individuals who have both legs. The purpose of this study was to determine if the amputee group had more knee pain or arthritis than the group with both legs. There were 62 veterans who had one leg and 94 who had both legs. These individuals were interviewed and asked questions relevant to the study's objectives. Comparisons between the two groups were adjusted for age and weight. For individuals with lower leg amputations, the prevalence of knee pain in the intact leg was about 1.3 times higher than in non-amputees, and for those with upper leg amputations, it was 3.3 times higher. In conclusion, it is likely that for veterans with only one leg, stress on the knee of the intact limb may contribute to the development of knee pain or arthritis.

#### **The Prevalence of Knee Pain and Symptomatic Knee Osteoarthritis Among Veteran Traumatic Amputees and Nonamputees**

NORVELL DC, CZERNIECKI JM, REIBER GE, MAYNARD C, PECORARO JA, WEISS NS

**Abstract:** *Objective:* To determine whether amputees have an increased risk of knee pain or symptomatic osteoarthritis (OA) compared with nonamputees.

*Design:* Retrospective cohort study.

*Setting:* Veterans Administration Patient Treatment and Outpatient Care files.

*Participants:* All male unilateral (transtibial or transfemoral) traumatic amputee patients and a random sample of male nonamputees. Patients were excluded if they were younger than 40 years, had sustained a significant injury to their knee(s), or had a rheumatic disease.

*Main Outcome Measures:* The prevalence of knee pain and symptomatic knee OA.

*Results:* The age and average weight-adjusted prevalence ratio of knee pain among transtibial amputees, compared with nonamputees, was 1.3 (95% confidence interval [CI], 0.7-2.1) for the knee of the intact limb and 0.2 (95% CI, .05-0.7) for the knee of the amputated limb. The standardized prevalence ratio of knee pain in the intact limb and symptomatic OA among transfemoral amputees, compared with nonamputees, was 3.3 (95% CI, 1.5-6.3) and 1.3 (95% CI, 0.2-4.8), respectively.

*Conclusions:* Stresses on the contralateral knee of amputees may contribute to secondary disability. Possible explanations include gait abnormalities, increased physiologic loads on the knee of the intact limb, and the hopping and stumbling behavior common in many younger amputees.

(Arch Phys Med Rehabil 86:487-493, 2005)  
ERIC Seattle, WA

## CSP #430

### Reducing the Efficacy-Effectiveness Gap in Bipolar Disorder

Bipolar disorder, also known as manic-depressive disorder, is a major chronic mental illness with alternating episodes of major depression and states of mania. The medical literature contains numerous studies of other co-existing problems in bipolar patients including substance abuse, such as alcohol or drug abuse, and anxiety disorders, such as panic or obsessive-compulsive disorder. In addition to studying how often these coexisting conditions occur, previous studies have examined patient characteristics such as education, race, age, etc., which may also be associated with bipolar disorder. However, previous studies were done mostly in community based settings where patients may be very different from patients treated, for example, in VA clinics. Hence, the findings may not apply directly to VA patients.

The results presented in this paper are based on a large study of over 300 VA patients with bipolar disorder that are typically treated in VA clinics. These patients were enrolled and followed for three years in a study designed to compare two different treatment approaches. At the time of enrollment patients had an extensive inpatient evaluation that included an assessment of other coexisting medical or psychological problems, as noted above, as well as the characteristics (age, race, etc.) that may also be associated. The results show that coexisting disorders were common: 57.3% had at least one currently, while 29.8% had more than one; 78.4% had at least one disorder by lifetime history. Prevalence rates for current substance and anxiety disorder were 33.8% and 38.3%, respectively. Current substance abuse was associated with age (younger), marital status (worse), and employability (higher). Current anxiety disorders were associated with age (earlier onset), more depressive episodes in prior year, disability payments, and poor physical/mental functioning. More importantly, the patterns of association between substance and anxiety disorders were suggestive of underlying neurologic and/or biologic mechanisms that could inform improved treatment plans.

#### Prevalence and Distinct Correlates of Anxiety, Substance, and Combined Comorbidity in a Multi-Site Public Sector Sample with Bipolar Disorder

MARK S. BAUER, LORI ALTSHULER, DENISE R. EVANS, THOMAS BERESFORD, WILLIAM O. WILLIFORD,  
RICHARD HUAGER FOR THE VA COOPERATIVE STUDY #430 TEAM

**Abstract:** *Background:* Recent data indicate high prevalence of both anxiety and substance comorbidity in bipolar disorder. However, few studies have utilized public sector samples, and only

one has attempted to separate contributions of each type of comorbidity.

*Methods:* 328 inpatient veterans with bipolar disorder across 11

**CSP #430: REDUCING EFFICACY-EFFECTIVENESS GAP IN BIPOLAR DISORDER (CONT)**

sites were assessed using selected Structured Clinical Interview for DSM-IV modules and self-reports.

*Results:* Comorbidity was common (current: 57.3%; lifetime: 78.4%), with multiple current comorbidities in 29.8%. Substance comorbidity rate was comparable to rates typically reported in non-veteran inpatient samples (33.8% current, 72.3% lifetime). Selected anxiety comorbidity rates exceeded those in other inpatient samples and appeared more chronic than episodic/recurrent (38.3% current, 43.3% lifetime). 49% of PTSD was due to non-combat stressors. Major correlates of current substance comorbidity alone were younger age, worse marital status, and higher current employability. Correlates of current anxiety comorbidity alone were early age on onset, greater number of prior-

year depressive episodes, higher rates of disability pension receipt, and lower self-reported mental and physical function. Combined comorbidity resembled anxiety comorbidity.

*Limitations:* This is a cross-sectional analysis of acutely hospitalized veterans.

*Conclusions:* Distinct patterns of substance and anxiety comorbidity are striking, and may be subserved by distinct neurobiologic mechanisms. The prevalence, chronicity and functional impact of anxiety disorders indicate the need for improved recognition and treatment of this other dual diagnosis group is warranted. Clinical and research interventions should recognize these divergent comorbidity patterns and provide individualized treatment built "from the patient out".

*(J Affect Disorders 85:301-315, 2005)*  
*CSPCC Perry Point, MD*

Bipolar disorder, also known as manic-depressive disorder, is a chronic form of mental illness with alternating states of major depression and mania. There is very little information documenting how often bipolar patients may also be affected by other medical conditions or whether their quality of life might differ depending on how old they are. This is particularly true for bipolar patients treated in VA clinics. The study reported here enrolled over 300 patients in VA clinics into a clinical trial comparing two approaches for treating bipolar disorder. At the time of enrollment, patients underwent an extensive inpatient evaluation, including an assessment of quality of life and the presence of other medical conditions. The results showed that most (81%) patients currently had some other medical condition present such as cardiovascular or cerebrovascular disease (35%), gastrointestinal problems (18%), liver disease (17%), lung problems (13%), neurologic (17%), and osteoarthritis (11%) as the most frequently occurring. 62% had two or more coexisting medical conditions present. The study showed that physical quality of life worsened with the presence of other medical conditions regardless of age. However, younger patients tended to report lower mental quality of life, suggesting that treatments tailored to different ages may enhance quality of life.

## Medical Comorbidity and Health-Related Quality of Life in Bipolar Disorder Across the Adult Age Span

HOWARD H FENN, MARK S BAUER, LORI ALTSHULER, DENISE R EVANS, WILLIAM O WILLIFORD,  
AMY M KILBOURNE, THOMAS P BERESFORD, GAIL KIRK, MARGARET STEDMAN, LOUIS FIORE  
FOR THE VA COOPERATIVE STUDY #430 TEAM

**Abstract:** *Background:* Little is known about medical comorbidity or health-related quality of life (HRQOL) in bipolar disorder across the adult age span, especially in public sector patients.

*Methods:* We obtained cross-sectional demographic, clinical, and functional ratings for 330 veterans hospitalized for bipolar disorder with Mini-Mental State score  $\geq 27$  and without active alcohol/substance intoxication or withdrawal, who had had at least 2 prior psychiatric admissions in the last 5 years. Structured medical record review identified current/lifetime comorbid medical conditions. SF-36 Physical (PCS) and Mental (MCS) Component Scores, measured physical and mental HRQOL. Univariate and multivariate

analyses addressed main hypotheses that physical and mental function decrease with age with decrements due to increasing medical comorbidity.

*Results:* PCS decreased (worsened) with age; number of current comorbid medical diagnoses, but not age, explained the decline. Older individuals had higher (better) MCS, even without controlling for medical comorbidity. Multivariate analysis indicated association of MCS with age, current depressed/mixed episode, number of past-year depressive episodes, and current anxiety disorder, but not with medical comorbidity, number of past-year manic episodes, current substance disorder or lifetime comorbidities.

**CSP #430: REDUCING EFFICACY-EFFECTIVENESS GAP IN BIPOLAR DISORDER (CONT)**

*Limitations:* This cross-sectional design studied a predominantly male hospitalized sample who qualified for and consented to subsequent randomized treatment.

*Conclusions:* Medical comorbidity is associated with lower (worse) physical HRQOL, independent of age.

Surprisingly, younger rather than older subjects reported lower mental HRQOL. This appears due in part to more complex psychiatric presentations, and several mechanisms are discussed. Both results suggest that age-specific assessment and treatment may enhance HRQOL outcome.

*(J Affect Disorders 86:47-60, 2005)*  
CSPCC Perry Point, MD

## CSP #380

### Prospective Evaluation of Risk Factors for (>1 cm) Colonic Adenomas in Asymptomatic Subjects

A routine physical exam in patients over 50 often includes a digital rectal exam for blood in the stools (digital FOBT), as a screening for possible colon cancer. Primary care providers often use this test as the only screening test. The study reported here compared “in-office” digital FOBT to the recommended 6-sample “at-home test”, in which patients are provided a take home kit, to determine its effectiveness as a screening method. Over 2600 patients were studied; patients had both screening tests as well as a complete colonoscopy to accurately assess the presence of advanced precancerous polyps or cancers. The study showed that the “in-office” single digital (FOBT) exam is a very poor test and cannot be relied on as the only screening test. It missed most cases with advanced polyps while a negative test did not reduce the chances the advanced polyps were present.

### Accuracy of Screening for Fecal Occult Blood on a Single Stool Sample Obtained by Digital Rectal Examination: A Comparison with Recommended Sampling Practice

JUDITH F COLLINS, MD, DAVID A LIEBERMAN, MD, THEODORE E DURBIN, MD, DAVID G WEISS, PhD,  
AND THE VETERANS AFFAIRS COOPERATIVE STUDY #380 GROUP

**Abstract:** *Background:* Many expert panels recommend colorectal cancer screening for average-risk asymptomatic individuals older than 50 years of age. Recent studies have found that 24% to 64% of primary care providers use only the digital fecal occult blood test (FOBT) as their primary screening test. The effectiveness of a single digital FOBT is unknown.

*Objective:* To compare the sensitivity and specificity of digital FOBT and the recommended 6-sample at-home FOBT for advanced neoplasia in asymptomatic persons.

*Design:* Prospective cohort study.

*Settings:* 13 Veterans Affairs medical centers

*Patients:* 3121 asymptomatic patients 50 to 75 years of age.

*Interventions:* 2665 patients had 6-sample at-home FOBT and digital FOBT, followed by complete colonoscopy.

*Measurements:* We measured the sensitivity of digital and 6-sample FOBT for advanced neoplasia and the specificity for no neoplasia. We calculated predictive values and likelihood ratios for advanced neoplasia, defined as tubular adenomas 10 mm or greater, adenomas with villous histology

**CSP #380: PROSPECTIVE EVALUATION OF RISK FACTORS FOR (>1 CM) COLONIC ADENOMAS IN ASYMPTOMATIC SUBJECTS (CONT)**

or high-grade dysplasia, or invasive cancer.

*Results:* Of all participants, 96.8% were men; their average age was 63.1 years. The 6-sample FOBT and the single digital FOBT had specificities of 93.9% and 97.5%, respectively, as defined by studying 1656 patients with no neoplasia. Sensitivities for detection of advanced neoplasia in 284 patients were 23.9% for 6-sample FOBT and 4.9% for the digital FOBT. The likelihood ratio for advanced neoplasia was 1.68 (95% CI, 0.96 to 2.94) for positive results on digital FOBT and 0.98 (CI, 0.95 to 1.01) for negative results.

*(Ann Intern Med 142(2):81-85, 2005)*  
*CSPCC Perry Point, MD*

*Limitations:* Most patients were men.

*Conclusions:* Single digital FOBT is a poor screening method for colorectal neoplasia and cannot be recommended as the only test. When digital FOBT is performed as part of a primary care physical examination, negative results do not decrease the odds of advanced neoplasia. Persons with these results should be offered at-home 6-sample FOBT or another type of screening test.

One objective of VA CSP #380 was to determine the prevalence and location of advanced pre-cancerous and cancerous polyps in the colon. All patients had full colon exams. It was possible to determine how many cases would have been missed if screening exams were limited to partial colon exams, such as sigmoidoscopy. The study concluded that full colonoscopy was the preferred screening method as many cases were missed by sigmoidoscopy. Since CSP #380 was conducted primarily in men, an NCI funded research group conducted a multi-center parallel study with a similar protocol in women at several military hospitals. This tandem study of over 1600 women showed that 65% of cases with advanced polyps would have been missed with a partial exam (sigmoidoscopy), and this indicated that full colonoscopy is the preferred screening method in women as well as men.

### **Colonoscopic Screening of Average-Risk Women for Colorectal Neoplasia**

PHILIP SCHOENFELD, MD, BROOKS CASH, MD, ANDREW FLOOD, PhD, RICHARD DOBHAN, MD, JOHN EASTONE, MD, WALTER COYLE, MD, JAMES W KIKENDALL, MD, HYUNGJIN MYRA KIM, ScD, DAVID G WEISS, PhD, THERESA EMORY, MD, ARTHUR SCHATZKIN, MD, DAVID LEIBERMAN, MD,  
FOR THE CONERN STUDY INVESTIGATORS

**Abstract:** *Background:* Veterans Affairs (VA) Cooperative Study 380 showed that some advanced colorectal neoplasias (i.e., adenomas at least 1 cm in diameter, villous adenomas, adenomas with high-grade dysplasia, or cancer) in men would be missed with the use of flexible sigmoidoscopy but detected by colonoscopy. In a tandem study, we examined the yield of screening colonoscopy in women.

*Methods:* To determine the prevalence and location of advanced neoplasia, we offered colonoscopy to consecutive asymptomatic women referred for colon-cancer screening. The diagnostic yield of flexible sigmoidoscopy was calculated by estimating the proportion of patients with advanced neoplasia whose lesions would have been identified if they had undergone flexible sigmoidoscopy alone. Lesions were considered detectable by flexible

sigmoidoscopy if they were in the distal colon, or if they were in the proximal colon in patients who had concurrent small adenomas in the distal colon, a finding that would have led to colonoscopy. The results were compared with the results from VA Cooperative Study 380 for age-matched men and women with negative fecal occult-blood tests and no family history of colon cancer.

*Results:* Colonoscopy was completed in 1463 women, 230 of whom (15.7 percent) had a family history of colon cancer. Colonoscopy revealed advanced neoplasia in 72 women (4.9 percent). If flexible sigmoidoscopy alone had been performed, advanced neoplasia would have been detected in 1.7 percent of these women (25 of 1463) and missed in 3.2 percent (47 of 1463). Only 35.2 percent of women with advanced neoplasia would have had their lesions identified if they had undergone flexible

**CSP #380: PROSPECTIVE EVALUATION OF RISK FACTORS FOR (>1 CM) COLONIC ADENOMAS IN ASYMPTOMATIC SUBJECTS (CONT)**

sigmoidoscopy alone, as compared with 66.3 percent of matched men from VA Cooperative Study 380 ( $P < 0.001$ ).

*Conclusions:* Colonoscopy may be the preferred method of screening for colorectal cancer in women.

(*N Engl J Med* 352:2061-2068, 2005)  
CSPCC Perry Point, MD

## CSP #707D

### Colorectal Cancer-Risk Factors for Advanced Disease

This was a four-year case-based study of veterans at geographically diverse centers with colorectal cancer. Information about lifestyle, education, occupational status, poverty, and health care access and utilization were obtained by telephone interview. Inclusion criteria were age 40-85 with a first diagnosis of colorectal cancer between July 1, 1997 and January 1, 2001. The primary objective of the study was to identify prognostic factors of late stage disease that might explain the worsened prognosis with colorectal cancer among veterans, and that also might be responsive to intervention.

The articles described below present results from the study regarding risk factors for advanced colorectal cancer disease and the impact of social support for colorectal cancer patients.

#### Risk Factors for Advanced Disease in Colorectal Cancer

DEBORAH A. FISHER, MD, CHRISTOPHER MARTIN, MSPH, JOSEPH GALANKO, PhD,  
ROBERT S. SANDLER, MD, MARC D. NOBLE, MD, DAWN PROVENZALE, MD

**Abstract:** *Objective:* The goal of this study was to identify predictors of presenting with late-stage colorectal cancer with a focus on potentially modifiable factors.

*Methods:* This was a multicenter, case-based study of patients with colorectal cancer. Detailed information about the cancer was abstracted from the tumor registries, pathology reports, and medical records. The remaining information was obtained by telephone interview. Inclusion criteria were age 40-85 yr with a first diagnosis of histologically proven colorectal cancer between July 1, 1997 and January 1, 2001. Simple contingency table methods were used to examine the relationship between potential risk factors for early versus advanced-stage disease. Logistic regression was

performed to simultaneously control for potential confounding factors.

*Results:* There was complete information for 549 respondents. Approximately, 43% of the sample presented with late-stage colorectal cancer. In univariate analysis, lacking a usual source of health care (doctor's office or clinic), no participation in any colorectal cancer screening test in the prior 10 yr, symptoms of blood in stool, and unexplained weight loss were associated with late-stage colorectal cancer. In the logistic regression model, only lacking a usual source of healthcare and unexplained weight loss were associated with late-stage colorectal cancer with odds ratios (95% confidence intervals) of 0.4 (0.2-0.6) and 1.9 (1.2-3.0), respectively.

(*Am J Gastroenterol* 99:1-6, 2004)  
ERIC Durham, NC

## Impact of Functional Support on Health-Related Quality of Life in Patients with Colorectal Cancer

SHAHNAZ SULTAN, MD, DEBORAH A. FISHER, MD, CORRINE I. VOILS, PhD, ANITA Y. KINNEY, PhD,  
ROBERT S. SANDLER, MD, DAWN PROVENZALE, MD

**Abstract:** *Background:* It has been shown that social integration and the availability of social support influence quality of life. However, little is known about the relation between social support and mental and physical health in patients with colorectal cancer. In the current study, the authors examined the effects of social network size, as well as emotional and instrumental support, on health-related quality of life (HRQOL) in patients with colorectal cancer.

*Methods:* Six hundred thirty-six veterans with colorectal cancer were asked to complete a telephone interview, which included a measure of social support (the Berkman-Syme Index) and the Medical Outcomes Study Short Form 12-Item Survey. Mean physical composite scale (PCS) and mental composite scale (MCS) scores were compared across groups.

*Results:* No difference in mean PCS or MCS scores was found between patients who had larger social networks and patients who had smaller social networks. The availability of emotional and instrumental support was associated with higher MCS scores, whereas the availability of instrumental support was associated with lower PCS scores.

*Conclusions:* Irrespective of network size, the availability of emotional support and instrumental support had an impact on HRQOL in patients with colorectal cancer. More emphasis needs to be placed on understanding how various types of social support, individually and collectively, influence physical and mental health in patients with colorectal cancer.

(Cancer 101:2737-2743, 2004)  
ERIC Durham, NC

## CSP #708D

### Prostate Cancer Case-Control Study: Black vs. White; VA vs. Private Sector

Approximately 230,000 men in the United States are expected to develop prostate cancer each year, making it the most commonly diagnosed cancer among American men. In the United States Blacks have higher rates of prostate cancer than Whites, with this difference most pronounced for undifferentiated tumors. Incidence rates of prostate cancer in the South are only slightly higher than national incidence rates. However, a clear discrepancy exists between national mortality rates and those in the southeast, with notably higher rates among southern Blacks. The objective of this study was to explore racial differences in potential risk factors for developing prostate cancer in the VA population.

The article described below presents results from the study regarding whether insulin-like growth factors may play a role in prostate cancer risk and/or severity.

#### ***IGF1* (CA)<sub>19</sub> Repeat and *IGFBP3* –202 A/C Genotypes and the Risk of Prostate Cancer in Black and White Men**

JOELLEN M. SCHILDKRAUT, PHD, WENDY DEMARK-WAHNEFRIED, PHD, ROBERT M. WENHAM, MD, JANET GRUBBER, MSPH, AMY S. JEFFREYS, MSTAT, STEVEN C. GRAMBOW, PHD, JEFFREY R. MARKS, PHD, PATRICIA G. MOORMAN, PHD, CATHRINE HOYO, PHD, SHAZIA ALI, BA, PHILIP J. WALTHER, MD

**Abstract:** We investigated the relationship between the insulin-like growth factor-1 (*IGF1*) cytosine-adenine repeat (CA)<sub>19</sub> polymorphism located upstream of the gene's transcription start site, the insulin-like growth factor binding protein-3 (*IGFBP3*) -202 A/C promoter region polymorphism, and prostate cancer risk in Black and White men. Study subjects were U.S. veterans ages 41 to 75 years identified at the Durham Veterans Administration Medical Center over a 2.5-year period. Controls (n = 93) were frequency matched to cases (n = 100) based on race (Black or White) and age. Multivariable unconditional logistic regression was used to calculate odds ratios (OR) and 95% confidence intervals (CI) for the associations between the polymorphisms and prostate cancer risk. For Blacks and Whites combined, an

inverse association between prostate cancer and being homozygous for the most common *IGF1* repeat allele, (CA)<sub>19</sub>, (adjusted OR, 0.3; 95% CI, 0.1-0.7) was observed. Similar associations were noted for both Blacks (OR, 0.2; 95% CI, 0.0-0.8) and Whites (OR, 0.4; 95% CI, 0.1-1.6) separately. No statistically significant associations between the *IGFBP3* C allele and prostate cancer were noted for Blacks (adjusted OR, 2.3; 95% CI, 0.8-6.2) or Whites (OR, 1.0; 95% CI, 0.3-3.1). The prevalence of the homozygous *IGF1* (CA)<sub>19</sub> genotype was much lower in Black controls (21%) than White controls (46%), which may, in part, explain the increased prostate cancer incidence in Black versus White men. Further research is needed to confirm these findings.

(*Cancer Epidemiol Biomarkers Prev* 14:403-08, 2005)  
ERIC Durham, NC

## CSP #97-010

### Colorectal Cancer

Aberrant crypt foci (ACF) are microscopic clusters of cells in the colon that appear to be early stages of colorectal cancer formation. While most ACF will probably never develop into cancer, some may. In this small study, a specialized magnifying colonoscope was used to look for ACF in 32 US veterans in order to try to identify characteristics that may be associated with the development of ACF. This study found that veterans with a history of colorectal polyps and older veterans are more likely to have ACF than those without. No association was seen with cigarette smoking or use of non-steroidal pain medications. As colorectal cancer has been previously associated with polyps and age, this study adds further evidence that ACF can lead to cancer. Further research is needed to identify factors that may predict which ACF will progress to cancer, and to determine interventions that may prevent this progression.

#### **Risk Factors for Colorectal Cancer in Relation to Number and Size of Aberrant Crypt Foci in Humans**

RUDOLPH RE, DOMINITZ JA, LAMPE JW, LEVY L, QU P, LI SS, LAMPE PD, BRONNER MP, POTTER JD

**Abstract:** Several characteristics of aberrant crypt foci (ACF) suggest that they are precursors of colorectal cancer, but the factors that promote or inhibit their growth are largely unknown. We conducted a pilot study to explore whether factors associated with risk of colorectal cancer are also associated with number or size of rectal ACF. Thirty-two U.S. veterans, ages 50 to 80 years, were recruited to undergo magnifying chromoendoscopy for imaging of rectal ACF and colonoscopy for identification of polyps or cancer. Participants completed a questionnaire on cigarette smoking, use of nonsteroidal anti-inflammatory drugs (NSAIDs), and family history of colorectal cancer. Fisher's exact test was used to assess the statistical significance of associations between colorectal cancer risk factors and characteristics of ACF. Cochran-Mantel-Haenszel statistics and

polytomous regression were used to test the significance of associations adjusted for age. Participants with a history of adenoma had more ACF than those without (age-adjusted  $P = 0.02$ ), but the numbers in the two groups overlapped markedly. Older participants had more ( $P = 0.06$ ) and larger ( $P = 0.009$ ) ACF than younger participants. No associations were identified between either ACF number or size and cigarette smoking, use of NSAIDs, or family history of colorectal cancer. These findings suggest that persons with adenomas have somewhat more rectal ACF than persons without, and that older age is a risk factor for ACF growth. Future research should be directed toward developing techniques to identify ACF that are likely to progress to cancer and the modifiable factors that promote or inhibit such progression.

*(Cancer Epidem Biomar 14:605-608, 2005)*  
ERIC Seattle, WA

## CSP #363

### **The VA HDL Intervention Trial (HIT): Secondary Prevention of Coronary Heart Disease In Men With Low HDL-Cholesterol and Desirable LDL-Cholesterol**

VA-HIT was a large study with 2531 patients conducted at 20 VA medical centers nationwide from 1991 to 1998. Patients with heart disease and low levels of HDL cholesterol and normal levels of LDL cholesterol were given a drug called gemfibrozil or placebo. The results of the study were that gemfibrozil reduced heart attacks by 22% and strokes by 25%.

This study tested the effect of gemfibrozil on renal disease called moderate chronic renal insufficiency (CRI) to see if the drug increased kidney function loss in men with heart disease. The drug did not have a negative effect on renal function either overall or in men with the metabolic syndrome.

### **Effect Of Gemfibrozil On Change In Renal Function In Men With Moderate Chronic Renal Insufficiency And Coronary Disease**

TONELLI M, COLLINS D, ROBINS SR, BLOOMFIELD H, AND CURHAN GC FOR THE VETERANS AFFAIRS  
HIGH-DENSITY LIPOPROTEIN INTERVENTION TRIAL (VA-HIT) INVESTIGATORS

**Abstract:** *Objective:* Limited data suggest that low levels of serum high-density lipoprotein cholesterol (HDL-C) and high levels of triglyceride-rich lipoproteins may be associated with more rapid rates of kidney function loss in individuals with chronic renal insufficiency (CRI). Although fibric acid derivatives increase serum HDL-C levels and decrease triglyceride levels, their effects on renal function are largely unknown. We conducted this study to determine whether gemfibrozil reduced rates of renal function loss in people with moderate CRI.

*Methods:* This was a post hoc subgroup analysis in the Veterans Affairs High-Density Lipoprotein Intervention Trial, a randomized double-blind trial of gemfibrozil versus placebo in 2,531 men with coronary disease, HDL-C levels of 40 mg/dL or less, low-density lipoprotein cholesterol levels of 140 mg/dL or less,

and a range of triglyceride levels. Moderate CRI is defined as estimated glomerular filtration rate (GFR) of 30 to 59.9 mL/min/1.73m<sup>2</sup>m at baseline. Multivariate regression was used to calculate rates of decline in estimated GFR for individuals administered gemfibrozil or placebo, controlling for prospectively determined potential confounders.

*Results:* Change in renal function could be calculated in 1,981 individuals, of whom 399 individuals (20.2%) were eligible for inclusion. Among 399 study subjects, the rate of change in renal function in the gemfibrozil group during a median of 61 months was not significantly different from that in the placebo group. No clinically relevant effect of gemfibrozil on renal function was observed in groups defined by baseline lipid levels, kidney function, diabetic

**CSP #363: THE VA HDL INTERVENTION TRIAL (HIT): SECONDARY PREVENTION OF CORONARY HEART DISEASE IN MEN WITH LOW HDL-CHOLESTEROL AND DESIRABLE LDL-CHOLESTEROL (CONT)**

status, or other components of the metabolic syndrome. The incidence of transient (10% versus 4%;  $p=0.01$ ), but not sustained (9% versus 4%;  $p=0.07$ ), increases in serum creatinine levels of 0.5 mg/dL or greater was significantly greater in the gemfibrozil group. However, in 5 subjects with acute increases in serum creatinine levels, serum creatinine kinase levels were significantly elevated as well,

suggesting that myocyte toxicity may have been responsible. Even when these individuals were excluded, no clinically significant effect of gemfibrozil on kidney function was observed.

*Conclusion:* Gemfibrozil does not appear to exert a clinically relevant effect on rates of kidney function loss in individuals with moderate CRI, low HDL-C levels, and concomitant coronary disease.

*(Amer Jour of Kidney Dis 44:832-839, 2004)*  
CSPCC West Haven, CT

## CSP #399

### The Effects of Antiarrhythmic Therapy in Maintaining Stability of Sinus Rhythm in Atrial Fibrillation

Atrial fibrillation (AF) is now the most common cardiac arrhythmia encountered in clinical practice, leading to significant mortality and morbidity. It affects 1.0 to 1.5 million Americans and is responsible for more than 75,000 strokes a year. In people 70 years or older, the prevalence rate is more than 3.5%, and the condition can involve as many as 40% of patients with congestive heart failure. It is an established risk factor for congestive heart failure and stroke and other embolic phenomena; it impairs exercise capacity, and may produce disabling palpitations and other associated symptoms. Atrial fibrillation is the basis for hospitalization twice as often as all other arrhythmias combined, and six times as often as ventricular tachycardia/fibrillation. The average hospital stay for atrial fibrillation is five days. The best approach to standardized therapy for atrial fibrillation remains to be developed. The main goals of treatment are to relieve symptoms (usually due to a fast heart rate), prevent the development of stroke and improve functional capacity. Symptoms may be relieved by slowing the ventricular response or restoring and maintaining sinus rhythm. The incidence of stroke is reduced by anticoagulation or restoring sinus rhythm, which may also improve the patient's functional capacity. It is likely that maintenance of sinus rhythm (SR) may preclude the necessity for anticoagulation, which as a form of therapy is not tolerated or is contraindicated in more than 30% of patients. Thus, the maintenance of sinus rhythm in patients predisposed to atrial fibrillation is a major therapeutic goal and agents that are effective in this regard are very important. This study compares the efficacy of two of the most promising agents, amiodarone and sotalol, to that of placebo in maintaining sinus rhythm in patients with atrial fibrillation who either spontaneously convert to sinus rhythm or are converted by chemical or electrical cardioversion.

### Amiodarone Versus Sotalol for Atrial Fibrillation

BRAMAH N. SINGH, MD, DSC, STEVEN N. SINGH, MD, DOMENIC J. REDA, PhD, X. CHARLENE TANG, MD, PhD, BECKY LOPEZ, RN, CRYSTAL L. HARRIS, PHARM.D, ROSS D. FLETCHER, MD, SATISH C. SHARMA, MD, J. EDWIN ATWOOD, MD, ALAN K. JACOBSON, MD, H. DANIEL LEWIS, JR., MD, DENNIS W. RAISCH, PhD, AND MICHAEL D. EZEKOWITZ, MB, CHB, PhD, FOR THE SOTALOL AMIODARONE ATRIAL FIBRILLATION EFFICACY TRIAL (SAFE-T) INVESTIGATORS

**Abstract:** *Background:* The optimal pharmacologic means to restore and maintain sinus rhythm in patients with atrial fibrillation remains controversial.

*Methods:* In this double-blind, placebo-controlled trial, we randomly assigned 665 patients who were

receiving anticoagulants and had persistent atrial fibrillation to receive amiodarone (267 patients), sotalol (261 patients), or placebo (137 patients) and monitored them for 1 to 4.5 years. The primary end point was the time to recurrence of atrial fibrillation beginning

**CSP #399: THE EFFECTS OF ANTIARRHYTHMIC THERAPY IN MAINTAINING STABILITY OF SINUS RHYTHM IN ATRIAL FIBRILLATION (CONT)**

on day 28, determined by means of weekly transtelephonic monitoring.

*Results:* Spontaneous conversion occurred in 27.1% of the amiodarone group, 24.2% of the sotalol group, and 0.8% of the placebo group, and direct-current cardioversion failed in 27.7%, 26.5%, and 32.1%, respectively. The median times to a recurrence of atrial fibrillation were 487 days in the amiodarone group, 74 days in the sotalol group, and 6 days in the placebo group according to the intention to treat and 809, 209, and 13 days, respectively, according to treatment received. Amiodarone was superior to sotalol ( $P<0.001$ ) and to placebo ( $P<0.001$ ), and sotalol was superior to placebo ( $P<0.001$ ). In patients with ischemic

heart disease, the median time to a recurrence of atrial fibrillation was 569 days with amiodarone therapy and 428 days with sotalol therapy ( $P=0.53$ ). Restoration and maintenance of sinus rhythm significantly improved the quality of life and exercise capacity. There were no significant differences in major adverse events among the three groups.

*Conclusions:* Amiodarone and sotalol are equally efficacious in converting atrial fibrillation to sinus rhythm. Amiodarone is superior for maintaining sinus rhythm, but both drugs have similar efficacy in patients with ischemic heart disease. Sustained sinus rhythm is associated with an improved quality of life and exercise performance.

(*N Engl J Med* 352:1861-72, 2005)  
CSPCC Hines, IL

## CSP #411

### The Coronary Artery Revascularization Prophylaxis (CARP) Trial

Cardiovascular disease accounts for one million deaths per year and is the major cause of mortality among Americans. Studies have shown that in patients scheduled for elective vascular surgery, the prevalence of coronary artery disease exceeds 50%. It is not surprising, therefore, that “perioperative cardiac morbidity” defined as the occurrence of MI, unstable angina, CHF, arrhythmias and cardiac death, is the leading cause of perioperative complications.

Although a number of sophisticated diagnostic tests have been shown to be helpful in identifying patients at high risk for perioperative cardiac complications, no study has addressed the most important question: Should prophylactic coronary revascularization be performed prior to elective vascular surgery? This study is designed to answer this question.

#### Coronary-Artery Revascularization Before Elective Major Vascular Surgery

EDWARD O. MCFALLS, MD, PHD, HERBERT B. WARD, MD, PHD, THOMAS E. MORITZ, MS,  
STEVEN GOLDMAN, MD, WILLIAM C. KRUPSKI, MD, FRED LITTOOY, MD, GORDON PIERPONT, MD,  
STEVE SANTILLI, MD, JOSEPH RAPP, MD, BRACK HATTLER, MD, KENDRICK SHUNK, MD, PHD,  
CONNIE JAENICKE, RN, BSN, LIZY THOTTAPURATHU, MS, NANCY ELLIS, MS, DOMENIC J. REDA, PHD,  
AND WILLIAM G. HENDERSON, PHD

**Abstract:** *Background:* The benefit of coronary-artery revascularization before elective major vascular surgery is unclear.

*Methods:* We randomly assigned patients at increased risk for perioperative cardiac complications and clinically significant coronary artery disease to undergo either revascularization or no revascularization before elective major vascular surgery. The primary end point was long-term mortality.

*Results:* Of 5859 patients scheduled for vascular operations at 18 Veterans Affairs medical centers, 510 (9%) were eligible for the study and were randomly assigned to either coronary-artery revascularization before surgery or no revascularization before surgery. The indications for a vascular operation were an expanding abdominal aortic aneurysm (33%) or arterial occlusive disease of the

legs (67%). Among the patients assigned to preoperative coronary-artery revascularization, percutaneous coronary intervention was performed in 59%, and bypass surgery was performed in 41%. The median time from randomization to vascular surgery was 54 days in the revascularization group and 18 days in the group not undergoing revascularization ( $P<0.001$ ). At 2.7 years after randomization, mortality in the revascularization group was 22% and in the no-revascularization group 23% (relative risk, 0.98; 95% confidence interval, 0.70 to 1.37;  $P=0.92$ ). Within 30 days after the vascular operation, a postoperative myocardial infarction, defined by elevated troponin levels, occurred in 12% of the revascularization group and 14% of the no-revascularization group ( $P=0.37$ ).

#### CSP #411: THE CORONARY ARTERY REVASCULARIZATION PROPHYLAXIS (CARP) TRIAL (CONT)

**Conclusions:** Coronary-artery revascularization before elective vascular surgery does not significantly alter the long-term outcome. On the basis of these data, a strategy of coronary-artery

revascularization before elective vascular surgery among patients with stable cardiac symptoms cannot be recommended.

*(N Engl J Med 351:2795-804, 2004)*  
CSPCC Hines, IL

### Disparate Opinions Regarding Indications for Coronary Artery Revascularization Before Elective Vascular Surgery

GORDON L. PIERPONT, MD, PHD, THOMAS E. MORITZ, MS, STEVEN GOLDMAN, MD,  
WILLIAM C. KRUPSKI, MD, FRED LITTOOY, MD, HERBERT B. WARD, MD, PHD,  
EDWARD O. MCFALLS, MD, PHD, AND THE CURRENT OPINION ON  
REVASCULARIZATION STUDY INVESTIGATORS

**Abstract:** Despite consensus guidelines, the optimal strategy for preoperative cardiac risk management among patients scheduled for major noncardiac surgery remains controversial. This study assesses current opinion about the role of preoperative coronary revascularization for patients with coronary artery disease scheduled for elective vascular surgery. Thirty-one practicing cardiologists recruited from four different regions reviewed case records, imaging tests, and coronary angiograms of 12 patients with coronary artery disease participating in the Coronary Artery Revascularization Prophylaxis (CARP) Trial. The need for preoperative coronary revascularization was determined and results summarized using three categories: favoring conservative management, neutral, or recommending revascularization (either by percutaneous intervention or bypass

surgery). We found recommendations were frequently disparate and often deviated from published guidelines (40% of the time). The likelihood of discordance between two cardiologists was 54%, with a 26% chance that recommendations for revascularization would be directly contradictory. Opinions were more often conservative (43%) or aggressive (40%) than neutral (17%). Similar inconsistency was found as to the preferred method of revascularization, with only one patient having complete agreement. Thus, this study reveals substantial differences of opinion among cardiologists across the country about the role of preoperative coronary artery revascularization for patients scheduled for elective vascular operations. Deviations from published guidelines are common, suggesting that current consensus statements need additional data to support their recommendations.

*(Am J Cardiol 94:1124-1128, 2004)*  
CSPCC Hines, IL

## CSP #97-010

### Carotid Artery Disease

We found that a lab test of how susceptible the low density lipoproteins were to oxidation predicted who did and did not have vascular disease better than cholesterol level alone.

#### Ex Vivo Measures of LDL Oxidative Susceptibility Predict Carotid Artery Disease

HENDRICKSON A, MCKINSTRY LA, LEWIS JK, LUM J, LOUIE A,  
SCHELLENBERG GD, HATSUKAMI TS, CHAIT A, JARVIK GP

**Abstract:** *Aim:* The purpose of the study was to assess whether ex vivo measures of low-density lipoprotein (LDL) oxidation improved prediction of carotid artery disease (CAAD) case-control status compared to standard lipid and smoking measures.

*Methods:* One hundred and forty cases with a high degree of carotid artery stenosis aged 40-83 years and an equal number of controls without stenosis or other vascular disease were matched by censored age within 2 years. Matched logistic regression evaluated the significance of copper-induced oxidative measures with and without covariates. The relationship of LDL oxidation measures with statin use and current smoking was also evaluated.

*Results:* Logistic regression demonstrated a significant effect of the three correlated measures of oxidative susceptibility (lag time, oxidation rate and maximal rate of oxidation) separately on disease prediction (all  $p < 0.05$ ). These oxidative measures remained significant predictors of case-control status when other cardiovascular disease predictors (age; LDL-C, HDL-C and ApoA1 levels; current smoking, ever smoking and pack-years smoked) were jointly considered. This relationship was not attributable to the effects of statin use on LDL oxidation.

*Conclusions:* Ex vivo measures of oxidation improved the prediction of carotid artery disease status, suggesting that this is an important determinant of atherosclerotic risk in this older population.

(*Atherosclerosis* 179:147-153, 2005)  
ERIC Seattle, WA

### Fatigue and Cardiovascular Disease

The National Academy of Sciences-National Research Council World War II Twin Registry is the largest twin registry of veterans in the world. The Registry includes white male twins born between 1917-27 who served in the military during World War II. Originally created in the 1960's using VA records the Registry is a remarkable resource for studies of the genetic and non-genetic influences on the long-term health of veterans. Clinical studies have investigated the causes of heart disease, cancer, Parkinson's disease and Alzheimer's Disease. Current projects include examining the genetic factors relating to healthy aging.

The relationship between fatigue and heart disease remains poorly understood. In 1998 and 1999 a general health survey was mailed to all living twins in the World War II Twin Registry. This survey asked questions about a wide range of health problems and conditions including prolonged fatigue and heart disease. The survey also included established risk factors for heart disease. Our study examined the relationship of prolonged fatigue and heart disease in more than 300 twin pairs where one member reported having prolonged fatigue and his twin brother did not. We found that prolonged fatigue was strongly associated with heart disease; those having prolonged fatigue were nearly twice as likely to report heart disease compared to those without fatigue, even after accounting for established heart disease risk factors. Further studies are needed to understand the biological basis of the association between fatigue and heart disease.

#### The Association between Prolonged Fatigue and Cardiovascular Disease in World War II Veteran Twins

FITZPATRICK AL, REED T, GOLDBERG J, BUCHWALD D

**Abstract:** Reports of fatigue preceding cardiac events have recently been confirmed by large prospective studies. To assess for genetic confounding, we investigated prolonged fatigue and cardiovascular disease (CVD) in a cohort of World War II veteran twins. We examined data from a questionnaire mailed to members of the National Academy of Sciences-National Research Council (NAS-NRC) World War II Twins Registry in 1998 and 1999 which included questions on demographics, medical conditions and symptoms of fatigue. Data from twins discordant for prolonged fatigue lasting a month or more were analyzed using conditional logistic regression. Among 1955 twin pairs, 157 monozygotic and 174

dizygotic pairs (mean age 74 years) were discordant for prolonged fatigue. An association was found between prolonged fatigue and a history of myocardial infarction or coronary artery surgery adjusting for age, socioeconomic status, smoking, alcohol use and depression (OR [Odds Ratio]: 2.2; 95% CI: 1.3-4.0). When analyses were performed separately by zygosity, the association was slightly larger for monozygotic (OR: 3.3; 95% CI: 1.2-9.1) than dizygotic twins (OR: 1.9; 95% CI: 0.9-4.0). These data corroborate the association of fatigue with CVD and suggest that it is not influenced by a common genetic factor. Further studies are needed to clarify the relationship and to better understand the biologic mechanisms.

*(Twin Res 7:571-577, 2004)*  
ERIC Seattle, WA

## CSP #97-010

### Data Resources

The Department of Veterans Affairs (VA) has a vast array of databases that are of interest to investigators involved in clinical, epidemiologic, and health services research. This paper reviews both local and national databases and describes their strengths and weaknesses, particularly as they apply to diabetes mellitus. As communications and database management technologies evolve, the value of these databases for researchers also increases. The interested reader is directed to [www.virec.research.med.va.gov](http://www.virec.research.med.va.gov) for up to date information about VA data.

### Data Resources in the Department of Veterans Affairs

MAYNARD C, CHAPKO MK

**Abstract:** *Objective:* To provide an overview of databases that are maintained by the Department of Veterans Affairs (VA) and are of relevance to investigators involved in epidemiologic, clinical, and health services research.

*Research Design and Methods:* We reviewed both national and local VA databases and identified their strengths and limitations. We also referenced specific studies that have assessed the validity and reliability of VA databases.

*Results:* There are numerous national databases housed at the Austin Automation Center in Austin, Texas. These include the Patient Treatment File (hospital abstracts), the Outpatient Care File, the Beneficiary Identification Record Locator System death file for assessing vital status, and the Decision Support System, which provides integrated clinical and financial information for managerial decision making. The major limitation of these databases is that clinical detail below

the level of ICD-9-CM diagnosis and procedure codes is not uniformly available nationally. These databases offer an excellent opportunity to monitor the health of veterans over time because they track all inpatient and outpatient utilization in the VA. However, at the local or medical center level, the Veterans Health Information and Systems and Technology Architecture contains extensive clinical information, but has fewer patients, varies in format across medical centers, and poses difficulties with data extraction for statistical analysis.

*Conclusions:* Both local and national VA databases are valuable resources for investigators who have interests in a wide array of research topics, including diabetes. The potential for investigating important scientific questions with VA databases becomes greater as communications and database management technologies improve.

(*Diabetes Care* 27 (Suppl 2):B22-26, 2004)  
ERIC Seattle, WA

## CSP #465

### Glycemic Control and Complications in Diabetes Mellitus Type II

Diabetes can have many serious complications, including increased risk for heart disease, eye problems, problems with the circulatory system and nervous system, and kidney disease. Previous research has demonstrated that strict glycemic control can prevent the microvascular complications of the disease, but this has not been proven for the macrovascular complications. CSP #465 has randomized 1792 patients at 20 VA medical centers to a regimen of strict glycemic control vs. standard control. Patients will be followed until 2007. The primary outcome variable is cardiovascular morbidity and mortality.

### Baseline Macrovascular Disease Correlates in Older Type 2 Diabetic Patients in US Veterans Affairs Diabetes Trial (VADT)

J. SHAH, S. KIRKMAN, C. WENDEL, M. MCCARREN, W. DUCKWORTH, C. ABRAIRA AND THE VADT GROUP

**Abstract:** *Summary:* The VADT will assess whether intensive (INT) treatment with insulin and multiple oral agents (OA) to normalize HbA1c will decrease new macrovascular disease (MVD) events compared with improved HbA1c (STD) with lower doses of insulin and same OA (power of 86% with 2 tailed alpha level 0.05 for a 21% reduction of MVD events). Both groups receive same instructions on lifestyle changes, as well as use of aspirin treatment and optimal control of BP and lipid levels. The trial will also evaluate

cost effectiveness, quality of life and complications. Of the initial 1439 patients, 97% are male, 17% Hispanic, 20% African-American, 14% smoke, 53% on insulin, 58% on statins, and 46% had a history of MVD. The MVD history was significantly associated with duration of diabetes, age, non-Hispanic ethnicity, hypertension, insulin and statin use, smoking history, lower HDL-cholesterol, lower LDL-cholesterol (presumably reduced by statin use), and higher triglycerides. MVD history was not associated with elevated HbA1c.

(MEDIMOND 653-658, 2004)  
CSPCC Hines, IL

## Retinopathy Associations in the Ongoing U.S. Veterans Affairs Diabetes Trial (VADT)

C. ABRAIRA, J. SACKS, N. EMANUELE, R. KLEIN, W. DUCKWORTH AND THE VADT GROUP

**Abstract:** *Summary:* In the baseline retinal photographs of the ongoing VA Diabetes Trial, higher retinopathy scores are associated with duration of diagnosis, microalbuminuria, HbA<sub>1c</sub>, blood pressure and fibrinogen, and are

inversely associated with PAI-1, triglycerides and smoking. High scores were more prevalent in African American and Hispanic patients, even if corrected for other risk factors.

(MEDIMOND 435-439, 2004)  
CSPCC Hines, IL

## CSP #705D

### Screening for Diabetes Mellitus in Veterans

The Screening for Diabetes Mellitus (DM) in Veterans study was a cross-sectional observational study of veterans with diabetes. The primary objective of the study was to measure the prevalence of undiagnosed diabetes mellitus and the annual incidence of new cases of DM among veterans between the ages of 45 and 64 and to compare the health-related quality of life (HRQOL) of veterans with undiagnosed DM to those without DM but who are at comparable risk for DM, both at baseline and over three years of follow-up.

The article described below presents results from the study regarding screening adults for diabetes and determining whether hemoglobin values are useful in predicting patients' likelihood of developing type 2 diabetes.

### Utility of Hemoglobin A1c in Predicting Diabetes Risk

DAVID EDELMAN, MD, MAREN K. OLSEN, PhD, TARA K. DUDLEY, MSTAT,  
AMY C. HARRIS, BA, EUGENE Z. ODDONE, MD

**Abstract:** *Background:* There is controversy surrounding the issue of whether, and how, to screen adults for type 2 diabetes. Our objective was to measure the incidence of new diabetes among outpatients enrolled in a health care system, and to determine whether hemoglobin A1c (HbA1c) values would allow risk stratification for patients' likelihood of developing diabetes over 3 years.

*Methods:* We conducted a prospective cohort study with 3-year follow-up at a single large, tertiary care, Department of Veterans Affairs Medical Center (VAMC). A convenience sample of 1,253 outpatients without diabetes, age 45 to 64, with a scheduled visit at the VAMC, were screened for diabetes using an initial HbA1c measurement. All subjects with HbA1c  $\geq 6.0\%$  (normal, 4.0% to 6.0%) were invited for follow-up fasting plasma glucose (FPG). We then surveyed patients annually for 3 years to ascertain interval diagnosis of diabetes

by a physician. The baseline screening process was repeated 3 years after initial screening. After the baseline screening, new cases of diabetes were defined as either the self-report of a physician's diagnosis of diabetes, or by HbA1c  $\geq 7.0\%$  or FPG  $\geq 7.0$  mmol/L at 3-year follow-up. The incidence of diabetes was calculated as the number of new cases per person-year of follow-up.

*Results:* One thousand two hundred fifty-three patients were screened initially, and 56 (4.5%) were found to have prevalent unrecognized diabetes at baseline. The 1,197 patients without diabetes at baseline accrued 3,257 person-years of follow-up. There were 73 new cases of diabetes over 3 years of follow-up, with an annual incidence of 2.2% (95% confidence interval [CI], 1.7% to 2.7%). In a multivariable logistic regression model, baseline HbA1c and baseline body mass index (BMI) were the only

**CSP #705D: SCREENING FOR DIABETES MELLITUS IN VETERANS (CONT)**

significant predictors of new onset diabetes, with HbA1c having a greater effect than BMI. The annual incidence of diabetes for patients with baseline HbA1c  $\leq 5.5$  was 0.8% (CI, 0.4% to 1.2%); for HbA1c 5.6 to 6.0, 2.5% (CI, 1.6% to 3.5%); and for HbA1c 6.1 to 6.9, 7.8% (CI, 5.2% to 10.4%). Obese patients with HbA1c 5.6 to 6.0 had an annual incidence of diabetes of 4.1% (CI, 2.2% to 6.0%)

*Conclusions:* HbA1c testing helps predict the likelihood that patients will develop diabetes in the future. Patients

with normal HbA1c have a low incidence of diabetes and may not require rescreening in 3 years. However, patient with elevated HbA1c who do not have diabetes may need more careful follow-up and possible aggressive treatment to reduce the risk of diabetes. Patients with high-normal HbA1c may require follow-up sooner than 3 years, especially if they are significantly overweight or obese. This predictive value suggests that HbA1c may be a useful test for periodic diabetes screening.

*(J Gen Intern Med 19:1175-1180, 2004)*  
*ERIC Durham, NC*

## CSP #97-010

### Diabetes-Related Utilization and Cost of Diabetes Care

The purpose of this paper was to track the costs of treating diabetes mellitus in the Veterans Health Administration (VHA) by determining the number of hospitalizations and clinic visits for the years 1994 through 1998 in veterans with diabetes. During this period, the number of hospitalizations declined from 152,000 in 1994 to 126,000 in 1998, whereas the number of visits increased from 1.7 million in 1997 to 1.9 million in 1998. Total expenditures were approximately \$1.5 billion for hospitalizations and \$214.8 million for outpatient visits. Since 1998, the numbers of veterans with diabetes has increased as has the cost of providing care. In the VHA, a major challenge for the foreseeable future will be to provide diabetes care in a cost effective manner.

### Diabetes-Related Utilization and Costs for Inpatient and Outpatient Services in the Veterans Administration

MACIEJEWSKI ML, MAYNARD C

**Abstract: Objective:** The purpose of this study was to calculate the total number of inpatient hospitalizations, outpatient clinic visits, and total direct health care costs associated with veterans with diabetes receiving care in Veterans Administration (VA) facilities.

**Research Design and Methods:** The number of inpatient hospitalizations is tracked for years 1994-1998, and outpatient clinic visits are tracked for years 1997 and 1998. Trends in utilization across different age and racial groups, as well as total direct inpatient and outpatient costs for 1998, are presented.

**Results:** Between 1994 and 1998, hospitalization rates decreased from 1.68 to 1.61. The average number

of outpatient visits was 4.5 in 1997 and 4.6 in 1998. VA incurred \$214.8 million in outpatient expenditures and \$1.45 billion in inpatient expenditures for veterans with diabetes receiving VA care.

**Conclusions:** Health care delivery systems and payors track the cost and utilization of services by specific patient groups to support disease management, quality improvement, external reporting, and cost containment. Tracking the utilization and cost of diabetes care is necessary to understand the financial impact of diabetes on health care systems and the overall burden of diabetes on individuals.

(Diabetes Care 27 (Suppl 2):B69-73, 2004)  
ERIC Seattle, WA

## CSP #97-010

### Lower-Extremity Complications of Diabetes

Adverse conditions of the lower legs and feet are major complications of diabetes mellitus. The purpose of this study was to describe the epidemiology of leg complications in the Veterans Health Administration (VHA). For 1998, we determined the number of hospitalizations for foot and leg ulcers, peripheral vascular procedures, and leg amputations, and whether these hospitalizations were associated with diabetes. In the VHA, veterans with diabetes had over half of hospitalizations for leg and foot ulcers, one-third of hospitalizations for peripheral vascular procedures, and two-thirds of hospitalizations for amputations. Hospitalization rates for these conditions increased with age. In the VHA, significant proportions of hospitalizations for conditions of the feet and lower legs are for veterans with diabetes.

#### The Epidemiology of Lower-Extremity Disease in Veterans with Diabetes

MAYFIELD JA, REIBER GE, MAYNARD C, CZERNIECKI J, SANGEORZAN B

**Abstract: Objective:** To describe the epidemiology of lower-extremity complications of diabetes in veterans who are users of the Department of Veterans Affairs (VA).

**Research Design and Methods:** Hospital discharge records for care provided in all VA hospitals in 1998 were obtained. All hospitalizations for lower-extremity ulceration, peripheral vascular procedures, and amputation were analyzed using frequency tables. A diabetes denominator was defined as a veteran with at least three ambulatory care visits with at least one diabetes diagnosis code. Age-specific and total age-adjusted rates of discharge with ulceration, vascular procedures, and amputation were calculated.

**Results:** Veterans with diabetes comprised over half of all hospitali-

zations for lower-extremity ulceration, one-third of all hospitalizations for peripheral vascular procedures, and two-thirds of all hospitalizations for amputation. The age-specific discharge rate per 1,000 diabetic persons for age 0-64 years, 65-74 years, and 75 years and older for ulceration were 28.4, 31.0, and 37.9; for vascular procedures, the rates were 3.5, 4.4, and 4.4; and for amputation, the rates were 7.3, 9.0, and 10.0, respectively.

**Conclusions:** Veterans with diabetes comprise a significant proportion of hospitalizations for lower-extremity ulceration, peripheral vascular bypass, and amputation. Age-specific rates of diabetic amputation in veterans are lower than U.S. rates.

(Diabetes Care 27 (Suppl 2):B39-44, 2004)  
ERIC Seattle, WA

## CSP #97-010

### Health Insurance Coverage and Diabetes Care

This study looked at a large national database to describe the provision of care to individuals with diabetes provided by different forms of health insurance. Although we found that most individuals had private insurance or Medicare, eleven percent of individuals with diabetes don't have health insurance. Uninsured adults with diabetes are predominantly minority and low income and receive fewer preventive services than individuals with health insurance. Among the insured, different types of health insurance coverage appear to provide similar levels of care, except for higher rates of diabetes education and HbA1c testing at the VA.

#### The Association Between Health Insurance Coverage and Diabetes Care; Data from the 2000 Behavioral Risk Factor Surveillance System

NELSON KM, CHAPKO MK, REIBER G, BOYKO EJ

**Abstract:** *Objective:* To describe the association between type of health insurance coverage and the quality of care provided to individuals with diabetes in the United States.

*Data Source:* The 2000 Behavioral Risk Factor Surveillance System.

*Study Design:* Our study cohort included individuals who reported a diagnosis of diabetes (n=11,647). We performed bivariate and multivariate logistic regression analyses by age greater or less than 65 years to examine the association of health insurance coverage with diabetes-specific quality of care measures, controlling for the effects of race/ethnicity, annual income, gender, education, and insulin use.

*Principal Findings:* Most individuals with diabetes are covered by private insurance (39 percent) or Medicare (44 percent). Among persons under the age of 65 years, 11 percent were uninsured. The uninsured were more likely to be African American or Hispanic and report

low incomes. The uninsured were less likely to report annual dilated eye exams, foot examinations, or hemoglobin A1c (HbA1c) tests and less likely to perform daily blood glucose monitoring than those with private health insurance. We found few differences in quality indicators between Medicare, Medicaid, or the Department of Veterans Affairs (VA) as compared with private insurance coverage. Persons who received care through the VA were more likely to report taking a diabetes education class and HbA1c testing than those covered by private insurance.

*Conclusions:* Uninsured adults with diabetes are predominantly minority and low income and receive fewer preventive services than individuals with health insurance. Among the insured, different types of health insurance coverage appear to provide similar levels of care, except for higher rates of diabetes education and HbA1c testing at the VA.

(*Health Serv Res* 40:361-372, 2005)  
ERIC Seattle, WA

## CSP #97-010

### Diabetes Quality Improvement

This study determined if providing feedback to primary care clinicians on the care of their patients with diabetes improves clinical outcomes. The study was conducted in the primary care clinics of several Veterans Affairs medical centers. These clinics were randomly assigned either to the intervention or control groups. The intervention group received feedback based on questionnaires completed by patients and other easy to access information on their health status such as pharmacy and laboratory data. The information collected from patients included their satisfaction with the medical care they received, their quality of life and ability to function, and specific aspects of their diabetes treatment and presence of diabetes-related complications. The intervention group clinical providers received this feedback just prior to scheduled patient visits. Although the expectation was that such feedback would result in improved outcomes and higher patient satisfaction, the result of the study in fact showed no such differences between the intervention and control groups. Other means for improving clinical outcomes in primary care settings continues to be an active area of interest among VA investigators.

#### Diabetes Quality Improvement in Department of Veterans Affairs Ambulatory Care Clinics: A Group-Randomized Clinical Trial

REIBER GE, AU D, McDONELL M, FIHN SD

**Abstract:** *Objective:* To conduct a group-randomized clinical trial to determine whether regular feedback to primary care providers of synthesized information on patients' health, function, and satisfaction would demonstrate improved outcomes for their patients with diabetes.

*Research Design and Methods:* Patients in General Internal Medicine Clinics Department of Veterans Affairs (VA) Medical Centers were randomized into seven intervention or control firms. Patient self-reported information was collected by mail on general health, diabetes, and up to five other chronic conditions. Patients with diabetes received the Seattle Diabetes Questionnaire, the 36-item Medical Outcomes Study short form (SF-36), and a validated patient satisfaction questionnaire at regular intervals. Data from self-report,

clinical, pharmacy, and laboratory sources were synthesized into patient-specific feedback reports that intervention providers received before patients' visits.

*Results:* The timely delivery to primary care providers of state-of-the-art patient-feedback reports that identified patient issues and areas for improvement did not result in significant improvements in patient outcomes between the intervention and control firms.

*Conclusions:* Outcomes in diabetic patients whose providers received synthesized patient data before visits were no better than in those receiving care from control firms. Future studies may benefit from substantial involvement in patients discussing, problem solving, and goal setting in addition to use of timely synthesized patient data.

(Diabetes Care 27 (Suppl 2):B61-68, 2004)  
ERIC Seattle, WA

## CSP #97-010

### Diabetes-Related Research

The Department of Veterans Affairs conducts an active research program on the problem of diabetes mellitus. We reviewed all diabetes research programs that were supported by the VA between 1998 to 2003. We found that VA research scientists are conducting a broad array of projects that examine the potential causes, diagnosis, and treatment of this disease. In addition, VA researchers have tried to identify risk factors and outcomes of diabetes, and describe how the VA provides health services and medical care for this condition. VA rehabilitation researchers have also examined the effect of diabetes on amputation and ways to prevent this complication. Many VA researchers also receive support from non-VA sources to conduct diabetes research. The VA also has provided support for trainees and new investigators who will become the next generation of diabetes investigators. The VA research program provides benefits not only to veterans but also the diabetes community in general.

### Diabetes Research in the Department of Veterans Affairs

REIBER GE, BOYKO EJ

**Abstract:** *Objective:* To provide an overview of the Department of Veterans Affairs (VA) research activities, highlighting diabetes-related research.

*Research Design and Methods* Diabetes is an important component of the VA research portfolio. All four VA research services support aspects of diabetes research. VA diabetes research projects and funding were examined from 1998 to 2003.

*Results:* VA scientists are conducting research on diabetes genetics, etiology, diagnosis, therapy, epidemiology, health services, and rehabilitation. VA research funding is available to answer important veteran-relevant questions through peer review, Center of Excellence activities, and multisite trial mechanisms. Many VA

scientists also receive research support from nonfederal sources, including private corporations and nonprofit foundations. The VA Office of Research and Development actively supports training the next generation of researchers through their career development awards and the VA health profession training programs.

*Conclusions:* The VA's diabetes research portfolio is extensive and includes many investigators, trainees, and fellows. There is substantial leveraging of VA diabetes research with support from other federal and nonfederal funding agencies, foundations, and private corporations. VA diabetes research findings benefit the global diabetes care community.

(*Diabetes Care* 27 (Suppl 2):B95-98, 2004)  
ERIC Seattle, WA

## **Comparison of Non-Veterans and Veterans with Diabetes**

This study aims to examine similarities and differences between nonveterans and veterans with diabetes who do and do not receive health care from the Department of Veterans Affairs with regard to health characteristics and quality of their preventive and medical care. We used two different sources of information for these comparisons. The first is the year 2000 Behavioral Risk Factor Surveillance System (BRFSS), a national telephone survey conducted annually in all 50 U.S. states by state health departments and the Centers for Disease Control and Prevention. Second, VA administrative databases were accessed for information on health status, receipt of veterans benefits, and other information. We found that 16% of male veterans who used VA medical care services had diabetes. This group was more likely to be nonwhite and unemployed, and have a lower income, poorer health status, and more activity limitations than male veterans who did not use VA health care services. Also, diabetic veterans receiving VA medical care had equivalent or higher quality preventive and diabetes care as measured by certain quality indicators than veterans receiving care elsewhere and nonveterans. Nearly one-fourth of diabetic veterans received VA compensation or pension payments. We conclude that male diabetic veterans receive preventive and diabetes-specific care from the VA that is equivalent to or of higher quality than that received by veterans and nonveterans in non-VA care settings.

### **Diabetes in Nonveterans, Veterans, and Veterans Receiving Department of Veterans Affairs Health Care**

REIBER GE, KOEPEL TD, MAYNARD C, HAAS LB, BOYKO EJ

**Abstract:** *Objective:* To compare behavioral risk factors and health and disease characteristics among three groups of adults with diabetes: nonveterans, veterans not receiving Department of Veterans Affairs (VA) health care, and veterans using VA services.

*Research Design and Methods:* Two data sources were used to describe the veteran population. First, the 2000 Behavioral Risk Factor Surveillance System (BRFSS) characterized the U.S. adult population by preventive health practices and risk behaviors linked to chronic and preventable diseases. New to the 2000 survey were questions on veteran status, which were administered in all states. Second, VA administrative

and veterans benefits data were analyzed to describe comorbidity, education services, and veterans benefits.

*Results:* The estimated prevalence of diabetes in male veterans receiving VA care was 16%. Male veterans with diabetes using VA care were more likely to be nonwhite, not employed, have lower income, lower health status, and more activity limitations than male veterans not using these services. Computerized records indicate VA users with diabetes also had high concurrent comorbidity. Frequency of VA diabetes and preventive care services, as measured by selected quality indicators, was equivalent to or higher than the levels reported by

**CSP #97-010: COMPARISON OF NON-VETERAN AND VETERANS WITH DIABETES (CONT)**

veterans not receiving VA care and nonveterans. In addition to health care, nearly one-fourth of veterans with diabetes also received monthly awards for compensation and pension.

*Conclusions:* Males receiving VA care with self-reported diabetes indicated receiving preventive care services at equivalent or higher levels than their counterparts receiving care outside the VA and nonveterans.

*(Diabetes Care 27 (Suppl 2):B3-9, 2004)*  
*ERIC Seattle, WA*

## CSP #97-010

### Addiction Treatment

Individuals who are eligible to receive health services in more than one system of care may receive similar services from both entities. This paper describes characteristics of veterans who underwent addiction treatment in non-Veterans Affairs (VA) facilities in Washington State and who used VA health care services, including addiction treatment. From 1996 to 2000, 2649 users of VA health care received addiction treatment in Washington State centers; 56% received some VA specialty addiction treatment as well and 44% had VA health care unrelated to addiction treatment. Female veterans, who used VA health care, were less likely to receive VA specialty addiction treatment than men (40% versus 58%). A significant proportion of veteran users of VA health care received addiction treatment in 2 different systems of care. We were not able to determine whether these addiction services were duplicative or complementary.

#### Utilization Of Department Of Veterans Affairs Health Care Services By Veterans Receiving Addiction Treatment In Washington State

MAYNARD C, KIVLAHAN DR, SLOAN KL, KRUPSKI A, SAXON AJ, STARK K

**Abstract:** The authors describe characteristics of treatment use among veterans who had addiction treatment in non-Veterans Affairs (VA) facilities in Washington State and who used health care services, including addiction treatment, in VA facilities. From 1996 through 2000, 2,649 VA patients received addiction treatment in Washington state facilities, with 56% (n = 1,489) also receiving some VA specialty addiction treatment and the remaining 44% (n = 1,160) receiving VA health care services unrelated to

addiction treatment. Among all veterans receiving addiction treatment in VA facilities in Washington state (n = 11,663), 11% also had treatment in non-VA centers. Over the more than 4-year period, female veterans seen in both systems were less likely to receive VA specialty addiction treatment than were male veterans (40% vs. 58%). This article shows that a significant number of veterans received addiction treatment in both VA and non-VA facilities in Washington state.

*(Psychol Serv 2:120-125, 2004)*  
ERIC Seattle, WA

## **CSP #458**

### **National Health Survey of Gulf War Era Veterans and Their Families – Phase III Physical Examinations**

This study was designed as a retrospective cohort study in which the health of a population-based sample of 15,000 troops deployed into the Gulf area during the Gulf War is compared to that of 15,000 troops who served in the military during the Gulf War but were not deployed in the Gulf area. The survey is to be conducted in three phases. Phase I of the study, a structured health questionnaire was mailed to each of the 30,000 Gulf War era veterans who were sampled in the survey. Up to four follow-up mailings were sent to non-respondents to increase the response rate in a six-month period. In Phase II, telephone interviews of a sample of 8,000 non-respondents and a review of selected medical records for a sample of 4,000 veteran respondents are being conducted. Through additional telephone interviews with non-respondents, the potential for non-participation bias will be evaluated. The medical records review will help in assessing validity of selected self-reported health data (clinic visits, hospitalization, pregnancy outcomes, birth defects among children, infant deaths, etc.). Phase III of the study (CSP #458) will consist of clinical examinations of a sample of 1,000 Gulf War era veterans and their spouses and children and 1,000 Gulf War era non-deployed veterans and their spouses and children. The overall purpose of the Phase III study is to corroborate preliminary results from Phase I, indicating elevated instances of several self-reported health conditions in the Gulf War era veterans compared to the control group. Sixteen VA medical centers will each examine an average of 125 veterans, 94 spouses, and 123 children over a period of 30 months. The VA centers will be strategically selected so that there will be a VA center within 3-4 hours driving distance of the majority of the families sampled. The primary hypotheses of the study are that Gulf War veterans will have an equal prevalence or mean level of certain medical and psychological conditions frequently reported in the literature compared to a control group of non-deployed veterans.

## Late Prevalence of Respiratory Symptoms and Pulmonary Function Abnormalities in Gulf War I Veterans

JOEL B. KARLINSKY, MD, MBA; MELVIN BLANCHARD, MD; RENEE ALPERN, MS;  
SETH A. EISEN, MD, MSC; HAN KANG, DPH; FRANCES M. MURPHY, MD, MPH;  
DOMENIC J. REDA, PhD

**Abstract:** *Background:* Published reports have documented an increased prevalence of self-reported respiratory symptoms among servicemen deployed during the 1990-1991 Gulf War. We evaluated whether this deployment resulted in long-term adverse respiratory effects.

*Methods:* A comprehensive medical history was taken and physical and laboratory evaluations, including pulmonary function tests, were performed in 1036 deployed and 1103 nondeployed veterans of the Gulf War. Participants were classified into 5 groups on the basis of their pulmonary function tests findings: normal pulmonary function; nonreversible airway obstruction; reversible airway obstruction; restrictive lung physiology; and small airway obstruction.

*Results:* Deployed veterans were younger, more commonly white, less educated, single, of lower mean family incomes, and more likely to have enlisted than nondeployed veterans. Deployed veterans were also statistically more likely to self-report a

history of smoking and wheezing than nondeployed veterans, but comparisons of reported physician visits for pulmonary complaints, pulmonary hospitalizations, numbers of documented episodes of asthma, bronchitis, or emphysema, and pulmonary medications prescribed in the year prior to evaluation did not reveal any differences between deployed and nondeployed veterans. The distribution of pulmonary function test results was identical among deployed and nondeployed veterans. Among both deployed and nondeployed veterans, about 64% had normal pulmonary function, 16% to 18% had nonreversible airway obstruction, 10% to 12.2% had restrictive lung physiology, 6% to 6.7% had small airway obstruction, and the remaining 0.9% to 1.3% had reversible airway obstruction.

*Conclusions:* Our findings did not confirm the hypothesis that deployment to the Gulf War in 1990-1991 resulted in an increased prevalence of clinically significant pulmonary abnormalities 10 years later.

(Arch Intern Med 164:2488-2491, 2004)  
CSPCC Hines, IL

## CSP #476

### Enhancing the Quality of Informed Consent (EQUIC)

Informed consent is a critical means of protecting the rights and interests of participants in clinical research, and effective and efficient means of evaluating the quality of consent are needed. This paper describes the development and testing of a reliable instrument to assess the quality of the informed consent process.

#### Evaluating the Quality of Informed Consent

JEREMY SUGARMAN, MD, MPH, MA; PHILIP W. LAVORI, PhD; MARYANN BOEGER; CAROLE CAIN, PhD;  
ROBERT EDSON, MA; VICKI MORRISON, MD; SHING SHING YEH, PhD, MD

**Abstract:** *Context:* Although informed consent is a critical means of protecting the rights and interests of participants in clinical research, effective and efficient means of evaluating the quality of consent are needed. Having such means will be important to monitoring consent and testing potential improvements in the consent process.

*Objective:* To develop and test a practical and general means of evaluating the quality of informed consent for clinical research.

*Methods:* We developed and tested the Brief Informed Consent Evaluation Protocol (BICEP), a short telephone-based assessment of informed consent. As soon as patient-participants completed the informed consent process for a participating VA Cooperative Studies Program clinical trial they called an interviewer who administered the BICEP.

*Results:* 632 participants completed BICEP, representing eight ongoing studies from 14 VA and one

non-VA medical centers across the country. Site coordinators reported little to no difficulty implementing BICEP. The average duration of BICEP was 8.8 minutes (SD 3.6). Overall, patient-participants evaluated the informed consent process positively. A reliable coding system was then developed to analyze the verbatim responses of the final 191 participants. An Informed Consent Aggregate Score (ICAS) had a mean score of 8.23 (SD 1.17) with a range of 0–10, with 10 a perfect score; and a Therapeutic Misconception Aggregate Score (TMAS) had a mean of 1.62 (SD 0.93) with a range of 0–5, with 5 a perfect score.

*Conclusions:* The BICEP is an efficient means of evaluating informed consent that is acceptable to research participants and research personnel. While participants tend to be satisfied with the informed consent process, the BICEP indicates there is room for improvement in the informed consent process for research.

(*Clinical Trials* 2:34-41, 2005)  
CSPCC Palo Alto, CA

## CSP #453

### Homocysteinemia in Kidney and End Stage Renal Disease

In the general population high levels of homocysteine are associated with an increased risk of death or heart disease. Patients with kidney disease often have high levels of homocysteine. This study, over a two year period, randomizes 2006 patients with kidney disease, patients either already on dialysis or with advanced kidney failure (pre-dialysis), and high homocysteine levels, to a capsule containing either placebo or a combination of vitamins; folic acid, B6, and B12. The aim of the study is to determine if the patients who receive the vitamins have a reduced death rate compared to the patients who receive placebo. The secondary aim is to determine if the patients who receive the vitamins have a reduced rate of heart disease compared to the patients who receive placebo. The study is six years long, and the patients were randomized from 36 VAs. After the initial three month follow-up visit at the hospital, patients are contacted by phone every three months, and the capsules are mailed to their home also every three months.

#### Design and Statistical Issues in the Homocysteinemia in Kidney and End Stage Renal Disease (HOST) Study

REX JAMISON, PAMELA HARTIGAN, J MICHAEL GAZIANO, STEPHEN FORTMANN, DAVID GOLDFARB, JEFFREY HAROLDSON, JAMES KAUFMAN, PHILIP LAVORI, KILMER MCCULLY AND KILLIAN ROBINSON

**Abstract:** The Homocysteine Study (HOST) Veterans Affairs Cooperative Studies Program No. 453, is a prospective, randomized, two arm, double-blind study of patients with end stage renal disease (ESRD) or advanced chronic kidney disease (ACKD, defined as an estimated creatinine clearance of 30 ml/min or less). Its primary objective is to determine whether administration of high doses of three vitamins, folic acid, vitamin B6 and vitamin B12, to lower the high plasma homocysteine levels, will reduce all cause mortality. The secondary objectives are to examine whether the treatment lowers the incidence of myocardial infarction, stroke, amputation of a lower extremity, a composite of death and the foregoing three events, the plasma homocysteine level, and, in ESRD

patients undergoing hemodialysis, thrombosis of the vascular access. A unique feature of this trial is that after initial evaluation at enrollment and one return visit, the follow up is exclusively by phone (or, if necessary, by mail). The subject is contacted every three months throughout the duration of the study from a central location. The study drug is shipped to the patient from a central location rather supplied locally. In a two year enrollment period, 2006 patients are to be enrolled. The duration of the observation period is four to six years. Data will be stored and analyzed at a coordinating center. The study design has the power to detect a reduction in all cause mortality rate of 17%. Issues related to the unique features of the design of this study are discussed.

*(Clin Trials 1:451-460, 2004)*  
CSPCC West Haven, CT

## CSP #352

### Colchicine in the Treatment of Alcoholic Cirrhosis of the Liver

The long-term heavy use of alcohol can cause serious injury to the liver through constant inflammation and the resultant scarring of liver tissue. Advanced stages of this condition are referred to as alcoholic cirrhosis, and approximately one in three individuals with an advanced form of alcoholic cirrhosis will typically die within two to three years. There is no known effective treatment but a number of small studies suggested that colchicine, an agent used to control other inflammatory types of diseases such as gout, might also work for cirrhosis. The study reported here was a large long-term study of over 500 patients to determine if the suggested benefits of these small studies could be reliably verified. The study showed that over six years of study, colchicine did not reduce the proportion of those dying or extend the lives of those surviving. Further, there were no major benefits when considering other related medical outcomes that would justify the use of colchicine as a treatment for alcoholic cirrhosis. Based on this study, colchicine is not recommended as a treatment.

#### Colchicine Treatment of Alcoholic Cirrhosis: A Randomized, Placebo-Controlled Clinical Trial of Patient Survival

TIMOTHY R MORGAN, MD, DAVID G WEISS, PHD, BERNARD NEMCHAUSKY, MD, EUGENE R SCHIFF, MD, BHUPINDER ANAND, MD, FRANCIS SIMON, MD, JAYASHRI KIDAO, MD, BENNET CECIL, MD, CHARLES L MENDENHALL, MD, DOUGLAS NELSON, MD, CHARLES LIEBER, MD, MARCOS PEDROSA, MD, LENNOX JEFFERS, MD, JOHN BLOOR, MD, LAWRENCE LUMENG, MD, LUIS MARSANO, MD, CRAIG MCCLAIN, MD, GIRISH MISHRA, MD, BRENT MYERS, MD, MARIA LEO, MD, YELENA PONOMARENKO, PHD, DEREK TAYLOR, MD, ANTONIO CHEDID, MD, SAMUEL FRENCH, MD, GARY KANEL, MD, NATALIE MURRAY, MD, PAUL PINTO, MD, TSE-LING FONG, MD, MIKE R SATHER, PHARM D

**Abstract:** *Background:* Colchicine improved survival and reversed cirrhosis in several small clinical trials. We compared the efficacy and safety of long-term colchicine, as compared with placebo, in patients with advanced alcoholic cirrhosis.

*Methods:* Five hundred forty-nine patients with advanced (Pugh B or C) alcoholic cirrhosis were randomized to receive either colchicine 0.6 mg twice per day (n = 274) or placebo (n = 275).

Treatment lasted from 2 to 6 years. The primary outcome was all-cause mortality. Secondary outcomes were liver-related morbidity and mortality. Liver biopsy was requested prior to entry and after 24 months of treatment.

*Results:* Attendance at scheduled clinic visits and adherence with study medication were similar in colchicine and placebo groups. Alcohol intake was less than 1 drink per day in 69% of patients. In an intention-to-treat

**CSP # 352: COLCHICINE IN THE TREATMENT OF ALCOHOLIC CIRRHOSIS OF THE LIVER (CONT)**

analysis, all-cause mortality was similar in colchicine (49%) and placebo (45%) patients ( $P = .371$ ). Mortality attributed to liver disease was 32% in colchicine and 28% in placebo patients ( $P = .337$ ). Fewer patients receiving colchicine developed hepatorenal syndrome. In 54 patients with repeat liver biopsies after 24 or more months of treatment, cirrhosis improved to septal fibrosis in 7 patients (3 colchicine, 4 placebo) and to portal fibrosis in 1 patient (colchicine).

*(Gastroenterology 128:882-890, 2005)*  
*CSPCC Perry Point, MD*

*Conclusions:* In patients with advanced alcoholic cirrhosis, colchicine does not reduce overall liver-specific mortality. Liver histology improves to septal fibrosis in a minority of patients after 24 months of treatment, with similar rates of improvement in patients receiving placebo and colchicine. Colchicine is not recommended for patients with advanced alcoholic cirrhosis.

## CSP #488

### Hepatitis C Infection

Hepatitis C virus (HCV) is a common infection with variable course that can lead to chronic hepatitis, cirrhosis, and liver cancer. The course of illness may be adversely affected by various factors, especially alcohol consumption. According to the National Health and Nutrition Examination Survey of 1988-94 and other population-based surveys, nearly 4 million Americans are infected with hepatitis C. Approximately 30,000 acute new infections occur each year, about 25-30 percent of which are diagnosed, and responsible for an estimated 8,000-10,000 deaths annually. Without effective intervention that number may triple in the next 10-20 years. Hepatitis C is now the leading reason for liver transplantation in the United States.

VA researchers have conducted a study to determine the prevalence of hepatitis C virus infection in veterans that are treated at VA medical centers, and to evaluate risk factors for infection. Among the 1288 veterans participating in the study, the estimated prevalence of hepatitis C was higher than the prevalence found in the general population. Significant predictors of infection included demographic factors, period of military service, prior health diagnoses, health care utilization, and lifestyle factors. Adjusting for injection drug use, the odds of infection were increased among veterans with prior testing for HCV and HIV, tattoos, and incarceration.

The prevalence of hepatitis C infection in veterans exceeds the estimate from the general population, likely reflecting more exposure to risk factors among veterans that use VA facilities. Most infections in this population are associated with risk factors found in non-veteran populations.

### Elevated Prevalence of Hepatitis C Infection in Users of United States Veterans Medical Centers

DOMINITZ JA, BOYKO EJ, KOEPESELL TD, HEAGERTY PJ, MAYNARD C, SPORLEDER JL, 488 STUDY GROUP

**Abstract:** Several studies suggest veterans have a higher prevalence of hepatitis C virus infection than nonveterans, possibly because of military exposures. The purpose of this study was to estimate the prevalence of anti-hepatitis C antibody and evaluate factors associated with infection among users of Department of Veterans Affairs medical centers. Using a two-staged cluster sample, 1,288 of 3,863 randomly selected veterans completed a survey and underwent home-based phlebotomy

for serological testing. Administrative and clinical data were used to correct the prevalence estimate for nonparticipation. The prevalence of anti-hepatitis C antibody among serology participants was 4.0% (95% CI, 2.6%-5.5%). The estimated prevalence in the population of Veterans Affairs medical center users was 5.4% (95% CI, 3.3%-7.5%) after correction for sociodemographic and clinical differences between participants and nonparticipants. Significant predictors of

**CSP #488: HEPATITIS C INFECTION (CONT)**

seropositivity included demographic factors, period of military service (e.g., Vietnam era), prior diagnoses, health care use, and lifestyle factors. At least one traditional risk factor (transfusion or intravenous drug use) was reported by 30.2% of all subjects. Among those testing positive for hepatitis C antibody, 78% either had a transfusion or had used injection drugs. Adjusting for injection drug use and nonparticipation,

seropositivity was associated with tattoos and incarceration. Military-related exposures were not found to be associated with infection in the adjusted analysis. In conclusion, the prevalence of hepatitis C in these subjects exceeds the estimate from the general US population by more than 2-fold, likely reflecting more exposure to traditional risk factors among these veterans.

*(Hepatology 41:88-96, 2004)*  
*ERIC Seattle, WA*

## CSP #97-010

### Chronic Hepatitis C

This research compared nine strategies for determining if a patient has been exposed to hepatitis C and if the patient currently has active virus. Decision analysis was used to compare the cost and accuracy of the various testing strategies to determine the best strategy. A strategy that can involve three blood tests is the best for patients who are less likely to have hepatitis C: first test for prior exposure to hepatitis C using an enzyme immunoassay; if that test does not provide a firm conclusion, confirm the test using a second but different test (recombinant immunoblot assays) for prior exposure to hepatitis C; and if either of those tests are clearly positive, test for active virus (reverse transcription polymerase chain reaction). A strategy that can involve two blood tests is the best for patients who are more likely to have hepatitis C because of a prior transfusion or history of IV drug use: first test for prior exposure to hepatitis C using an enzyme immunoassay; if that test is positive, test for active virus (reverse transcription polymerase chain reaction). The use of these strategies can minimize costs and maximize the likelihood of an accurate diagnosis.

### Cost Effectiveness of Testing Strategies for Chronic Hepatitis C

CHAPKO MK, SLOAN KL, DAVISON JW, DUFOR DR, BANKSON DD, RIGSBY M, DOMINITZ JA

**Abstract:** *Objective:* This paper compares nine strategies for determining hepatitis C antibody and viral status. They combine two tests for antibodies (enzyme immunoassays (EIA), recombinant immunoblot assays (RIBA)) and one for viremia (reverse transcription polymerase chain reaction (PCR)). Using optical density to divide EIA results into three categories (high positive, low positive, negative) was also considered.

*Methods:* Decision analysis compared strategies on cost as well as sensitivity and specificity with regard to antibody and viral status. Parameters in the decision tree included antibody prevalence, proportion viremic, sensitivity, specificity, and cost of individual tests.

*Results:* The two best strategies are EIA followed by PCR (EIA-->PCR); and EIA with three levels of optical density (EIA-OD), followed by RIBA for EIA-OD low positives, and then PCR for all positives (EIA-OD-->RIBA-->PCR). EIA-->PCR has equal viral sensitivity, slightly lower cost, slightly higher antibody sensitivity, but lower antibody specificity compared to EIA-OD-->RIBA-->PCR. The cost per false antibody positive avoided using EIA-OD-->RIBA-->PCR rather than EIA-->PCR is \$36 when prevalence is 5%, and \$193 when prevalence is 50%. Using EIA-OD-->RIBA-->PCR rather than EIA-->PCR results in 112 false antibody positives avoided for every true antibody positive missed when prevalence is 5%; this ratio is 18:1 when prevalence is 25%; and 6:1 when prevalence is 50%.

**CSP #97-010: CHRONIC HEPATITIS C (CONT)**

*Conclusions:* EIA-OD-->RIBA-->PCR is the best choice when prevalence in the tested group is below 20%. As prevalence increases, the choice of EIA-OD-->RIBA-->PCR versus

EIA-->PCR will depend on the relative importance of avoiding false antibody positives versus missing true antibody positives. Our analysis makes explicit the magnitude of this trade-off.

*(Am J Gastroenterol 100:607-615, 2005)*  
*ERIC Seattle, WA*

## Cirrhosis-Related Death or Hospitalization

This paper assessed the risk of having upper body obesity, i.e. fat accumulation in the abdomen, in individuals who were hospitalized for or died of cirrhosis. The population sampled included 11,434 individuals from the United States, ages 25-74 years, who participated in the first National Health and Nutrition Examination Survey (NHANES I) between 1971 and 1974. Upper body obesity is characterized by greater accumulation of fat tissue in the abdomen compared to the peripheral limbs. It is a known risk factor for diabetes, high blood pressure, cardiovascular diseases, fatty liver disease, etc. Central obesity in this study was assessed by measuring the skinfold in the subscapular and triceps areas. A subscapular/triceps skinfold ratio of greater than one was used to define central obesity, whereas a ratio of equal to or less than one defines peripheral obesity. Our finding from analyzing the NHANES I data suggested that only those who were obese with body mass index (BMI) greater than 30 as well as with a central obesity pattern had increased risk of being hospitalized or dying from cirrhosis. The finding is in agreement with the known adverse metabolic consequences of central obesity in health.

### Is Central Obesity Associated with Cirrhosis-Related Death or Hospitalization? A Population-Based, Cohort Study

IOANNOU GN, WEISS NS, BOYKO EJ, KOWDLEY KV, KAHN SE, CARITHERS RL, TSAI EC, DOMINITZ JA

**Abstract:** *Background & Aims:* We aimed to determine the interaction between body fat distribution (central versus peripheral) and increased body mass index (BMI) with regards to the risk of cirrhosis-related death or hospitalization.

*Methods:* Participants included 11,434 persons aged 25-74 years without evidence of cirrhosis at entry into the study or during the first 5 years of follow-up who were subsequently followed for a mean of 12.9 years as part of the first National Health and Nutrition Examination Survey. Participants were categorized into "normal-weight" (BMI < 25 kg/m<sup>2</sup>, N = 5750), "overweight" (BMI 25 to < 30 kg/m<sup>2</sup>, N = 3770), and "obese" (BMI >

or = 30 kg/m<sup>2</sup>, N = 1914). The subscapular to triceps skinfold thickness ratio (SFR) was used to categorize body fat distribution into central (SFR > 1, N = 5211) and peripheral (SFR < or = 1, N = 6223).

*Results:* Cirrhosis resulted in death or hospitalization of 88 participants during 149,888 person-years of follow-up (59/100,000 person-years). Among persons with a central body fat distribution, cirrhosis-related deaths or hospitalizations were more common in obese persons (115/100,000 person-years, adjusted hazard ratio 2.2, 95% confidence interval [CI] 1.1-4.6) and in overweight persons (94/100,000 person-years, adjusted hazard ratio 1.5, 95% CI 0.8-3.0) compared to normal-

**CSP #97-010: CIRRHOSIS-RELATED DEATH OR HOSPITALIZATION (CONT)**

weight persons (59/100,000 person-years). However, among persons with a peripheral fat distribution, there was no association between obesity (adjusted hazard ratio 0.7, 95% CI 0.3-1.6) or overweight (adjusted hazard ratio 0.8, 95% CI 0.2-2.8) and cirrhosis-related death or hospitalization.

*(Clin Gastroenterol Hepatol 3:67-74, 2005)*  
ERIC Seattle, WA

*Conclusions:* The risk of cirrhosis-related death or hospitalization appears to be increased in the presence of cirrhosis, but only among persons with a central fat distribution. The excess risk associated with central obesity might be related to insulin resistance and hepatic steatosis.

## CSP #97-010

### Depression and Hepatitis C

Depression is a common side effect of interferon therapy for hepatitis C virus (HCV) infection. In this study, 39 patients undergoing treatment of HCV were followed to determine if depression was related to response to anti-viral therapy. During treatment, one-third of patients developed depression and were treated with citalopram, an anti-depressant. While only 11.5% of the patients who did not develop depression were able to clear the virus from their bloodstream, 38.5% of those who developed depression cleared the virus. It is conceivable that depression was a marker of increased activity of the anti-viral medication in those patients or more optimal medication dosing for antiviral effect. Therefore, depression may be a predictor of a good treatment response in patients undergoing treatment for HCV. Further studies are needed to confirm these findings.

#### Association of Interferon-Alpha-Induced Depression and Improved Treatment Response in Patients with Hepatitis C

LOFTIS JM, SOCHERMAN RE, HOWELL CD, WHITEHEAD AJ, HILL JA, DOMINITZ JA, HAUSER P

**Abstract:** Thirty-nine patients with hepatitis C viral infection on interferon-alpha (IFN-alpha) therapy were monitored weekly using the Beck Depression Inventory (BDI). Thirteen of thirty-nine patients (33%) developed IFN-alpha-induced major depressive disorder (MDD). During the course of IFN-alpha therapy, patients who became depressed were treated with citalopram, a selective serotonin reuptake inhibitor (SSRI) antidepressant.

Results indicated that: (1) IFN-alpha response rates were significantly higher in those patients who developed IFN-alpha-induced MDD than in those

who did not (end-of-treatment response (ETR) rates: 61.5% versus 26.9% and sustained viral response (SVR) rates: 38.5% versus 11.5%), (2) male patients with ETR to IFN-alpha therapy were, on average, approximately 33 pounds lighter in body weight than male patients who did not respond, and (3) gender, race, past history of MDD, and past history of substance abuse were not significantly associated with ETR.

In conclusion, our findings suggest that IFN-alpha-induced MDD may be a predictor of a positive response to IFN-alpha therapy, or an indication of optimal dosing.

*(Neurosci Lett 365:87-91, 2004)*  
ERIC Seattle, WA

## CSP #97-010

### Hepatitis C Infection

Hepatitis C virus (HCV) infection causes chronic liver disease. An estimated 1.8% of Americans are infected with HCV, but reports of infection in US veterans range from 1.7 to 35%. In this study, veterans' medical records were reviewed from 8 Northwest Veterans Administration Medical Centers. Among those veterans tested for hepatitis C, 21.7% had evidence of infection. From 1994 to 2000, the number of veterans tested increased annually, but the proportion of individuals tested with a first-time positive hepatitis C test result decreased. The drop in those testing positive for the first time was associated with a shift away from testing individuals at highest risk (e.g., those with a positive hepatitis B test). Based on our analysis, we estimate that 11.4% of the Northwest Network veteran users are HCV positive. Although estimates of HCV infection among veteran users of the Veterans Administration system remain higher than those for the general US population, changes in testing practice make generalizations from earlier studies hazardous.

### Hepatitis C Tested Prevalence and Comorbidities among Veterans in the US Northwest

SLOAN KL, STRAITS-TROSTER KA, DOMINITZ JA, KIVLAHAN DR

**Abstract:** *Goals:* (1) Investigate the epidemiology of hepatitis C virus infection among patients seen in the Veterans Administration Northwest Network; (2) examine time trends in testing practices and results; and (3) estimate the prevalence of hepatitis C virus infection among active patients.

*Background:* Hepatitis C virus infection causes chronic hepatitis and cirrhosis and is a leading cause of end-stage liver disease. Hepatitis C virus antibodies are estimated to be present in 1.8% of the US population, but reports of its prevalence among US veterans range from 1.7 to 35%.

*Study:* Retrospective review of computerized medical records of veterans tested for hepatitis C from October 1994 through December 2000

(n = 37,938) at 8 Northwest Veterans Administration Medical Centers.

*Results:* Among tested veterans, 8230 (21.7%) had evidence of hepatitis C virus infection. The number of patients tested increased annually from 2335 to 18,191, while the proportion with first-time positive hepatitis C test results decreased from 35 to 10%. This drop in tested prevalence was associated with a shift away from testing individuals at highest risk--those with positive hepatitis B serostatus, repeatedly elevated alanine transaminase levels, and drug use disorder diagnoses. We estimate that 11.4% of the Northwest Network veteran users are hepatitis C virus seropositive, with a lower bound of 4.0% and upper bound of 19.5%.

**CSP #97-010: HEPATITIS C INFECTION (CONT)**

*Conclusions:* Although estimates of hepatitis C virus infection rates among veteran users of the Veterans Administration system remain higher

than those for the general population, changes in testing practice make generalizations from earlier studies hazardous.

*(J Clin Gastroenterol 38:279-284, 2004)*  
*ERIC Seattle, WA*

## **EPI/CSP #601**

### **Mental Health: Impact of Military Stressors Across the Life Course**

The Mental Health Core Component (MHCC) is designed to conduct and to facilitate state of the art longitudinal research on the impact of military deployments, such as the War in Iraq, on mental health across the life course. Research and training efforts within the MHCC are founded on the tenet that mental health adaptation to stressors experienced during military service is an unfolding, dynamic process, the understanding of which requires a longitudinal perspective. The MHCC serves a series of functions intended to assist DVA investigators interested in pursuing research on long-term mental health adaptation to military stressors. Specifically, we propose to build and provide: (1) a clearinghouse for information concerning funding opportunities and collaborative mechanisms with other agencies, particularly the Department of Defense (DoD), for DVA researchers interested in the impact of military stressors across the life course; (2) an information resource for longitudinal research methodologies applied to veterans' mental health; (3) an educational resource for empirically-validated preventative interventions that address the consequences of military occupational stress at major life stages and milestones in young, midlife, and older veterans; and (4) a center for ongoing longitudinal epidemiological studies of key mental health outcomes (e.g., substance abuse, depression, violence) consequent to military stressors. We will also develop a course curriculum that will guide research on the lifespan consequences of military deployments, with three components: (a) risk and resilience factors in recovery and adaptation to military trauma, (b) advanced methods for the analysis of longitudinal data, and (c) evidenced-based secondary prevention research from a lifespan perspective. The curriculum will be adapted for several modes of presentation or venues.

## Deployment Stressors, Gender, and Mental Health Outcomes Among Gulf War I Veterans

DAWN S. VOGT, ANICA P. PLESS, LYNDA A. KING, DANIEL W. KING

**Abstract:** Findings indicate that war-zone exposure has negative implications for the postdeployment adjustment of veterans; however, most studies have relied on limited conceptualizations of war-zone exposure and focused on male samples. In this study, an array of deployment stressors that were content valid for both female and male Gulf War I military personnel was examined to elucidate gender differences in war-zone exposure and identify gender-based

differential associations between stressors and mental health outcomes.

**Conclusion:** While women and men were exposed to both mission-related and interpersonal stressors and both stressor categories were associated with mental health outcomes, women reported more interpersonal stressors and these stressors generally had a stronger impact on women's than on men's mental health. Exceptions are described, and implications are discussed.

*(Journal of Traumatic Stress 18(3):271-284, 2005)*  
MAVERIC Boston, MA

## Brief Cognitive-Behavioral Phone-Based Intervention Targeting Anxiety about the Threat of Attack: A Pilot Study

ELI SOMER, EITAN TAMIR, SHIRA MAGUEN, BRETT T. LITZ

**Abstract:** A brief, cognitive-behavioral, phone-based intervention was employed with an Israeli sample experiencing anticipatory anxiety about potential war-related attacks. In this quasi-experimental controlled pilot study, the cognitive behavioral therapy intervention (diaphragmatic breathing and a modified cognitive-restructuring technique) was compared with the standard hotline care administered when worried citizens called a mental health emergency hotline in Israel. Individuals ( $n = 32$ ) were administered anxiety and worry measures pre-intervention, post-intervention, and three days post-

intervention. The results indicated that anxiety levels decreased for the experimental and control group immediately post-intervention; however, three days later, the levels of anxiety in the CBT group continued to decline, while anxiety levels in the control group reached pre-intervention levels on two of the three outcome measures. These results suggest that CBT can be effectively delivered by paraprofessionals over the phone, which is cost-effective and efficient. Limitations are considered, and implications for treating individuals coping with the threat of terrorism are discussed.

*(Behaviour Research & Therapy 43: 669-679, 2005)*  
MAVERIC Boston, MA

## **Risk Factors for Partner Violence Among a National Sample of Combat Veterans**

LYNDA A. KING AND DANIEL W. KING, KARESTAN C. KOENEN, ANICA P. PLESS, CASEY T. TAFT,  
LORETTA J. STALANS

**Abstract:** In this study, the authors identified potential risk factors for partner violence perpetration among a subsample (n = 109) of men who participated in a national study of Vietnam veterans. Partner violent (PV) men with posttraumatic stress disorder (PTSD) were compared with PV men without PTSD and nonviolent men with PTSD on family-of-origin variables, psychiatric problems, relationship

problems, and war-zone factors. PV men with PTSD were the highest of the 3 groups on every risk factor other than childhood abuse. Group contrasts and a classification tree analysis suggest some potential markers and mechanisms for the association between PTSD and partner violence among military veterans and highlight the need for theory development in this area of inquiry.

*(Journal of Consulting & Clin Psych 73(1):151-159, 2005)*  
MAVERIC Boston, MA

## CSP #500

### A Study of Amyotrophic Lateral Sclerosis (ALS) Among Gulf War Veterans

In response to Gulf War veterans' concerns of high rates of ALS, this study sought to determine if veterans have an elevated rate of ALS. CSP #500 was designed as a nationwide epidemiologic case ascertainment study to ascertain all occurrences of ALS for the 10-year period since August 1990 among active duty military and mobilized Reserves, including National Guard, who served during the Gulf War. One of the concerns facing field epidemiological investigations is that of case ascertainment bias, particularly when it is differential among the study groups.

The article described below presents results from the study regarding a specific methodology used to estimate possible under-ascertainment of ALS cases among deployed and non-deployed military personnel who were on active duty during the Gulf War. This analysis confirms earlier reports that military personnel who were deployed to the Gulf Region during the 1991 Gulf War experienced a 2-fold higher risk of ALS than those who were not deployed to the Gulf.

#### Estimating the Occurrence of Amyotrophic Lateral Sclerosis Among Gulf War (1990-1991) Veterans Using Capture-Recapture Methods

CYNTHIA J. COFFMAN, PhD, RONNIE D. HORNER, PhD, STEVEN C. GRAMBOW, PhD,  
JENNIFER LINDQUIST, MSTAT FOR THE INVESTIGATORS OF VA COOPERATIVE STUDIES PROJECT #500

**Abstract:** *Objective:* Using data from a recent report that indicated a 2-fold higher risk of amyotrophic lateral sclerosis (ALS) among veterans of the 1991 Gulf War, we applied capture-recapture methodology to estimate possible under-ascertainment of ALS cases among deployed and non-deployed military personnel who were on active duty during that war.

*Study Design and Setting:* One of the most serious concerns facing field epidemiological investigations is that of case ascertainment bias, particularly when it is differential among the study

groups. Capture-recapture methods, however, have promise as an approach to assessing the impact of case ascertainment in such studies. To overcome potential limitations of any one approach, three different estimation methods were used: log-linear models, sample coverage, and ecological models, to obtain a comprehensive view of under-ascertainment bias in these populations.

*Results:* All three approaches indicated differential undercount of ALS cases with modest under-ascertainment likely to have occurred among non-

**CSP #500: A STUDY OF AMYOTROPHIC LATERAL SCLEROSIS (ALS) AMONG GULF WAR VETERANS (CONT)**

deployed military personnel, but little under-ascertainment among the deployed. After correcting the rates for under-ascertainment, the age-adjusted risk of ALS remained elevated among military personnel who had been deployed to S.W. Asia during the 1991 Gulf War, confirming the earlier report.

*(Neuroepidemiology 241:141-150, 2005)*  
ERIC Durham, NC

*Conclusions:* Capture-recapture methods are a useful approach to assessing the magnitude of case ascertainment bias in epidemiological studies from which ascertainment-adjusted estimates of rates and relative risks can be calculated.

## CSP #8

### Can the Provision of Primary Care Reduce Hospital Readmissions?

Hospital readmissions: (1) are prevalent; (2) account for a major portion of total health care expenditures; (3) are usually related to problems that arose during the original admission; and (4) may frequently be preventable. Readmissions may account for half of all hospitalizations and 60% of hospital costs. In addition to their expense, readmissions may be a marker of poor quality care. It is therefore important to implement interventions that may avert readmissions. The purpose of this study was to determine whether an intervention of rapid access to high quality primary care for patients discharged from the hospital would reduce hospital readmissions.

### Patient Satisfaction and Use of Veterans Affairs Versus Non-Veterans Affairs Healthcare Services by Veterans

STROUPE KT, HYNES DM, GIOBBIE-HURDER A, ODDONE EZ, WEINBERGER M, REDA DJ, HENDERSON WG

**Abstract:** *Objectives:* Chronically ill patients who are not satisfied with their care may change healthcare providers or systems, which could disrupt continuity of care and impede management of their conditions. We examined whether patient satisfaction affected subsequent use of non-Veterans Affairs (VA) services among chronically ill veterans discharged from VA hospitals.

*Methods:* The data used in this study came from a multicenter trial of increased access to primary care. We enrolled patients with diabetes, heart failure, and/or chronic obstructive pulmonary disease who were discharged from 1 of 9 VA medical centers. At baseline, we assessed satisfaction using the Patient

Satisfaction Questionnaire. VA and non-VA utilization over the subsequent 6 months were assessed using VA and Medicare administrative data, non-VA billing data, and patient interviews. Using multivariable logistic regression analyses, we examined whether baseline patient satisfaction was associated with non-VA inpatient or outpatient utilization during the next 6 months. We conducted the same analysis for Medicare-eligible veterans, a group with better access to non-VA care.

*Results:* Of 1375 study patients, 174 (13%) used non-VA healthcare. Patients with non-VA utilization were older and lived farther from a VA. The odds of non-VA use decreased by 11% as satisfaction increased (odds ratio

**CSP #8: CAN THE PROVISION OF PRIMARY CARE REDUCE HOSPITAL READMISSIONS? (CONT)**

0.89; 95% confidence interval 0.83-0.97; P=0.005). This relationship was strongest among Medicare-eligible veterans (odds ratio 0.85; 95% confidence interval 0.77-0.93; P=0.001).

*Conclusions:* Dissatisfied veterans discharged from the hospital

were more likely to go outside VA for care. Thus, improvements in patient satisfaction may lead to improvements in continuity of care.

*(Med Care 43(5);453-460, 2005)*  
*CSPCC Hines, IL*

## CSP #420

### Group Treatment of Posttraumatic Stress Disorder

CSP #420 compared two types of group therapy treatment for post-traumatic stress disorder (PTSD). Study subjects received weekly therapy for 30 weeks, followed by five monthly booster sessions. The primary outcome was PTSD symptom severity. After 12 months, subjects in the two types of therapy had similar levels of PTSD symptoms.

Veterans with severe PTSD often have trouble finding and keeping work. We investigated whether work and earnings corresponded to the level of PTSD symptoms. We found that people with the most severe PTSD were less likely to have a job. Among those with work, people with the most severe symptoms were somewhat more likely to hold a sales or clerical job than other types of jobs. Finally, within job types, we found no relation between earnings and the person's level of PTSD symptoms.

### Employment Outcomes and PTSD Symptom Severity

SMITH MW, SCHNURR PP, ROSENHECK RA

**Abstract:** A diagnosis of chronic war-related posttraumatic stress disorder (PTSD) has been linked consistently to poor employment outcomes. This study investigates the relation further, analyzing how symptom severity correlates with work status, occupation type, and earnings. Study participants were male Vietnam veterans with severe or very severe PTSD who received treatment in the Department of Veterans Affairs system (N=325). Veterans with more severe symptoms were more likely to work part-time or not

at all. Among workers, more severe symptoms were weakly associated with having a sales or clerical position. Conditional on employment and occupation category, there was no significant relation between PTSD symptom level and earnings. Alternative PTSD symptom measures produced similar results. Our findings suggest that even modest reductions in PTSD symptoms may lead to employment gains, even if the overall symptom level remains severe.

*(Mental Health Services Research 7(2):89-102, 2005)*  
HERC Palo Alto, CA

## CSP #EP 00-02

### PTSD in Women

Posttraumatic stress disorder (PTSD) is an often disabling mental health condition that can develop following traumatic experiences such as combat exposure, physical or sexual assault, severe accidental injury, or natural disaster. PTSD is characterized by many emotional symptoms such as anxiety, nightmares, sleep disturbance, trouble interacting with others, avoiding reminders of the trauma, and flashbacks to the traumatic memories. Recent studies have suggested that PTSD may also affect physical health.

In this study, we examined the relationship between PTSD symptoms, physical and mental health, and quality of life reported by female veterans who were seen for clinical care at a large VA medical center over a two year period. In our sample of 1259 women, 266 (21%) met screening criteria for PTSD. The women who screened positive for PTSD reported more psychiatric problems, substance abuse, and lifetime exposure to domestic violence. They were significantly more likely to endorse physical health problems including obesity, smoking, irritable bowel syndrome, fibromyalgia, chronic pelvic pain, polycystic ovary disease, asthma, cervical cancer, and stroke. Furthermore, these women reported poor quality of life due to both emotional and physical problems. We concluded that the mental health symptoms of PTSD are common among women who are treated at VA facilities, and that PTSD may negatively impact physical health and quality of life in these women. These findings have important implications for the design of primary care services for the growing population of women who are seen for care in VA settings.

#### **Post-Traumatic Stress Disorder in Female Veterans: Association with Self-Reported Health Problems and Functional Impairment**

DOBIE DJ, KIVLAHAN DR, MAYNARD C, BUSH KR, DAVIS TM, BRADLEY KA

**Abstract:** *Background:* The purpose of this report is to identify self-reported health problems and functional impairment associated with screening positive for posttraumatic stress disorder (PTSD) in women seen for care at a Department of Veterans Affairs (VA) medical center.

*Methods:* A survey was mailed to all women (N = 1935) who received care at the VA Puget Sound Health Care System between October 1996 and January 1998. The survey inquired

about health history and habits. It included the PTSD Checklist-Civilian Version (PCL-C) and validated screening measures for other psychiatric disorders. The veteran's version of the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36-V) was included to assess health-related quality of life.

*Results:* Of the 1259 eligible women who completed the survey, 266 women (21%) screened positive for current PTSD (PCL-C score  $\geq$  50). In

**CSP #EP 00-02: PTSD IN WOMEN (CONT)**

age-adjusted bivariate analyses, women who screened positive for PTSD reported more psychiatric problems, substance abuse, and lifetime exposure to domestic violence. They were significantly more likely to endorse physical health problems including obesity, smoking, irritable bowel syndrome, fibromyalgia, chronic pelvic pain, polycystic ovary disease, asthma, cervical cancer, and stroke. In fully adjusted multivariate models, a PCL-C score of 50 or greater was indepen-

dently associated with scoring in the lowest quartile on SF-36-V subscales and composite scales.

*Conclusions:* Symptoms of PTSD are common in women treated at VA facilities. In addition, PTSD is associated with self-reported mental and physical health problems and poor health-related quality of life in these patients. These findings have implications for the design of VA primary care services for the growing population of female veterans.

*(Arch Intern Med 164:394-400, 2004)*  
*ERIC Seattle, WA*

### Oral Anticoagulant Therapy to Improve Patency of Small Caliber Prosthetic Bypass Grafts

Patients with poor circulation in their legs because of blocked arteries often benefit from surgery which restores circulation and prevents amputation. Treatment also includes blood thinning medication such as aspirin to help improve circulation. Aspirin has been shown to be effective and is commonly prescribed although some side effects such as bleeding occasionally occur. In addition to aspirin, some doctors also prescribe a second blood thinning agent, warfarin, which also can cause side effects such as bleeding. This study was designed to determine if there is a significant increase in risk of major bleeding events when aspirin and warfarin are used together, compared to aspirin alone. This study showed that the combined therapy did result in a significant increase in risk and that most complications occurred when measures of clotting were within controlled ranges.

### Hemorrhagic Complications during Long-Term Postoperative Warfarin Administration in Patients Undergoing Lower Extremity Arterial Bypass Surgery

WILLARD C. JOHNSON, MD, WILLIAM O. WILLIFORD, PHD,  
JOHN D. CORSON MBChB, FRANK R. PADBERG, JR, MD

**Abstract:** Lower extremity bypass procedures restore function and prevent amputation in many patients with severe peripheral arterial occlusive disease. The regular postoperative use of aspirin offers the dual benefit of extending bypass patency and patient survival. Previous trials of adjunctive oral anticoagulant therapy with warfarin have infrequently combined warfarin with aspirin. We hypothesized that the addition of oral anticoagulant therapy would further enhance the benefits of aspirin but may increase the risk of clinically important bleeding.

Eligible patients (n = 831) scheduled for elective lower extremity arterial bypass surgery were randomized to receive either warfarin plus aspirin (WA) (n = 418) or aspirin alone (n = 413). At monthly intervals, the warfarin dose was adjusted to a

target international normalized ratio (INR) of 1.4 to 2.8; both groups received aspirin (325 mg/d). The end point of major hemorrhagic events, defined as intracranial hemorrhage or bleeding that required intervention, is reported, and INR values and compliance with warfarin therapy are presented.

Major hemorrhagic events occurred more frequently in the WA group (35 in the WA group vs. 15 in the aspirin group; p = .02) during a mean follow-up of 38 months. In the WA group, an intracranial hemorrhage occurred in six patients (two had an INR > 3.0), of whom four died; one subdural hemorrhage occurred in the aspirin group. Transfusions and interventions for bleeding were more frequent in the WA group, as were minor bleeding events.

**CSP #362: ORAL ANTICOAGULANT THERAPY TO IMPROVE PATENCY OF SMALL CALIBER PROSTHETIC BYPASS GRAFTS (CONT)**

Of the 8,946 INR determinations, 58% were in the target range, whereas a higher value occurred in 10% and a lower value in 32%. Compliance with warfarin was maintained in 65% of the patients after the first year of observation.

In patients with elective lower extremity bypass procedures, the postoperative adjunctive use of warfarin with aspirin increased the risk of major hemorrhagic events. Most of these events occurred when the INR was in the target range.

*(Vascular 12(6):362-368, 2004)*  
*CSPCC Perry Point, MD*

## CSP #364

### Registry to Obtain Long Term Patency Data on Saphenous Vein and Internal Mammary Artery Grafts

The Department of Veterans Affairs has already established the standard of care regarding the use of antiplatelet therapy after coronary artery bypass graft surgery and can continue its leadership role in the management of patients with coronary artery disease by the long term follow-up provided in CSP #364. Ten-year graft patency will be determined, as well as long term survival in these patients. Little data exist regarding the long term patency of saphenous vein grafts under the influence of antiplatelet drugs. The VA is in a unique position to be able to accomplish the largest, most comprehensive and best follow-up study in this area.

#### Long-Term Patency of Saphenous Vein and Left Internal Mammary Artery Grafts After Coronary Artery Bypass Surgery

STEVEN GOLDMAN, MD, FACC, KAREN ZADINA, RN, MA, THOMAS MORITZ, MS, THERON OVITT, MD, GULSHAN SETHI, MD, JACK G. COPELAND, MD, LIZY THOTTAPURATHU, MS, BARBARA KRASNICKA, PHD, NANCY ELLIS, MS, ROBERT J. ANDERSON, PHD, WILLIAM HENDERSON, PHD,  
FOR THE VA COOPERATIVE STUDY GROUP #207/297/364

**Abstract:** *Objectives:* This study defined long-term patency of saphenous vein grafts (SVG) and internal mammary artery (IMA) grafts.

*Background:* This VA Cooperative Studies Trial defined 10-year SVG patency in 1,074 patients and left IMA patency in 457 patients undergoing coronary artery bypass grafting (CABG).

*Methods:* Patients underwent cardiac catheterizations at 1 week and 1, 3, 6, and 10 years after CABG.

*Results:* Patency at 10 years was 61% for SVGs compared with 85% for IMA grafts ( $p < 0.001$ ). If a SVG or IMA graft was patent at 1 week, that graft had a 68% and 88% chance, respectively, of being patent at 10 years. The SVG patency to the left anterior descending artery (LAD) (69%) was better ( $p < 0.001$ ) than to the right coronary artery (56%), or

circumflex (58%). Recipient vessel size was a significant predictor of graft patency, in vessels  $> 2.0$  mm in diameter SVG patency was 88% versus 55% in vessels  $\leq 2.0$  mm ( $p < 0.001$ ). Other positive significant predictors of graft patency were use of aspirin after bypass, older age, lower serum cholesterol, and lowest Canadian Functional Class ( $p < 0.001$  to 0.058).

*Conclusions:* The 10-year patency of IMA grafts is better than SVGs. The 10-year patency for SVGs is better and the 10-year patency for IMA grafts is worse than expected. The 10-year patency of SVGs to the LAD is better than that to the right or circumflex. The best long-term predictors of SVG graft patency are grafting into the LAD and grafting into a vessel that is  $> 2.0$  mm in diameter.

(*J Am Coll Cardiol* 44:2149-56, 2004)  
CSPCC Hines, IL

## CSP #456

### Tension Free Inguinal Hernia Repair: Comparison of Open and Laparoscopic Surgical Techniques

Inguinal hernia is one of the most common worldwide afflictions of men. The presence of an inguinal hernia is indication for its repair. Approximately 700,000 hernia repairs are performed in the U.S. each year, and this procedure accounts for 10% of all general surgery procedures in the Veterans Health Administration (VHA) (10,000 inguinal herniorrhaphies performed per year). There are many different techniques currently in use for repairing inguinal hernias and with the advent of laparoscopy, yet another technique is being advocated. Laparoscopic repair has been reported in some studies to be superior to open repair because of less pain and earlier return to work. However, laparoscopic repair requires a general or regional anesthetic and expensive equipment and supplies to perform. There is also evidence that open tension-free mesh repair may have results similar to laparoscopic repair for these patient-centered outcome measures. The general acceptance of this procedure, especially in the VHA, has not been uniform. Furthermore, no randomized trial of sufficient size and power to be conclusive has been done to set forth the operative "gold standard" for hernia repair. The objective of this study is to determine whether open tension-free herniorrhaphy, when compared with laparoscopic herniorrhaphy, can achieve equal or better recurrence rates and lower costs while achieving equivalent outcomes for patient-centered measures.

This article compares recurrence rates and other outcomes after either of two standardized tension-free surgical procedures for repair of inguinal hernia: open repair and laparoscopic repair.

#### Design and Conduct Issues in Surgical Clinical Trials

LEIGH NEUMAYER, MD, MS

**Abstract:** The design and conduct of surgical clinical trials present unique challenges to the investigator that are not encountered in drug studies. Using

the Veterans Affairs Cooperative Studies program Hernia Trial as a case study, this article explores the potential problems and solutions.

*(Am J Surg 188(6A Suppl):17S-21S, 2004)*  
CSPCC Hines, IL

## Does Surgeon Frustration and Satisfaction with the Operation Predict Outcomes of Open or Laparoscopic Inguinal Hernia Repair?

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JOHN J. GLEYSTEN, MD, FACS, MARTIN MCCARTHY, JR, PHD, JAMES GIBBS, PHD,  
LEIGH NEUMAYER, MD, MS, FACS

**Abstract:** *Background:* A surgeon's level of frustration when performing an operation and level of satisfaction at completion may be correlated with patients' outcomes. We evaluated the relationship between the attending surgeons' frustration and satisfaction and recurrence and complications of open and laparoscopic inguinal hernia repair.

*Study Design:* Men with detectable inguinal hernias were randomized to undergo open or laparoscopic herniorrhaphy at 14 Veterans Affairs hospitals. After completion of the procedure, surgeons were asked to assess their level of frustration during the operation and their overall satisfaction with the operative result. Two subjective scales ranging from 1 (not frustrated/not satisfied) to 5 (very frustrated/very satisfied) were used to independently assess both parameters. Reasons for surgeon frustration were evaluated. Patients were followed for 2 years for recurrence and complications.

*Results:* Of 1,983 patients who underwent hernia repair, 1,622 were available for analysis; 808 had open repair and 813 had laparoscopic repair. Surgeons reported less frustration and more satisfaction with open than with laparoscopic repair ( $p=0.0001$  and  $0.0001$ , respectively). Frustration was associated with a higher rate of hernia recurrence at 2 years (adjusted odds ratio, 2.01, 95% CI, 1.15-3.51) in open repair, and a higher overall rate of postoperative complications (adjusted odds ratio, 1.27, 95% CI, 1.03-1.56) in both open and laparoscopic hernia repair. Satisfaction was not correlated with recurrence or complications.

*Conclusions:* The level of a surgeon's frustration during performance of an inguinal herniorrhaphy was a better predictor of outcomes of the operation than was satisfaction with the procedure. Sources of intraoperative frustration should be controlled to improve outcomes.

(*J Am Coll Surg* 200(5):677-683, 2005)  
CSPCC Hines, IL

## Complications Following Surgery for Sleep Apnea

The objective of this study was to calculate the rate of serious complications following a common surgery for obstructive sleep apnea (OSA). OSA is a common sleep disorder characterized by repeated choking episodes during sleep.

Uvulopalatopharyngoplasty (UPPP), a surgery that opens the breathing space in the throat, is the most common surgery to treat OSA. Small studies have shown variable rates of serious complications from UPPP. In this large study, we calculated the rates of serious complications after UPPP in all Veterans Affairs hospitals from 1991 - 2001. On average, the 3130 UPPP patients were 50 years old, and 97% were male. The rate of serious nonfatal complication was 1.5%, and the rate of death within 30 days of surgery was 0.2%.

### Incidence of Serious Complications after Uvulopalatopharyngoplasty

KEZIRIAN EJ, WEAVER EM, YUEH B, DEYO RA, KHURI SF, DALEY J, HENDERSON W

**Abstract:** *Objectives:* Uvulopalatopharyngoplasty (UPPP) is the most common surgical treatment for obstructive sleep apnea (OSA). Anatomic and physiologic abnormalities associated with OSA can make perioperative management difficult. Only single-site case series provide current estimates of the incidence of perioperative complications, with a pooled crude serious complication rate of 3.5% and a crude mortality rate of 0.4%. The primary objective of this study was to calculate the incidence of perioperative morbidity and mortality in a large, multisite cohort of UPPP patients.

*Study Design:* Prospective cohort study of adults undergoing inpatient UPPP with or without other concurrent procedures.

*Methods:* The serious complication and 30-day mortality rates were calculated from the Department of Veterans Affairs (VA) National Surgical

Quality Improvement Program database of prospectively collected outcomes of all VA inpatient surgeries nationally 1991 to 2001. Serious complications were defined by 15 specific life-threatening complications. Deaths were captured whether the patient was in the hospital or discharged.

*Results:* Veteran patients (n = 3130) had a mean age of 50 years and were predominantly male (97%). The serious nonfatal complication rate was 1.5% (47/3,130) (95% confidence interval [CI] 1.1%, 1.9%). The 30-day mortality rate was 0.2% (7/3130) (95% CI 0.1%, 0.4%). There was no significant effect of year of surgery or patient age on the risk of serious complication or death.

*Conclusion:* The incidence of serious nonfatal complications and 30-day mortality after UPPP are 1.5% and 0.2%, respectively, in a large cohort of UPPP patients at veteran hospitals.

(*Laryngoscope* 114:450-453, 2004)  
ERIC Seattle, WA

## CSP #256

### Vietnam Era Twin Registry

The Vietnam Era Twin (VET) Registry includes more than 7,500 male-male twin pairs who both served on active military duty during the Vietnam era (1965-1975) and were born between 1939 and 1957. The average age of the VET Registry twins is now ~53. The Registry contains both identical (monozygotic) and fraternal (dizygotic) twins; approximately one-third of the twins served in Vietnam and the remaining members served elsewhere during the Vietnam era. Data in the VET Registry comes from military records as well as several waves of mail and telephone interviews.

In 1990 all VET Registry twins were mailed a health survey. This survey included information about a wide variety of health problems and conditions including kidney stones. Also included in this survey were questions about usual diet and the use of diet supplements such as vitamins and minerals. From these data we determined that genetic factors play an important role in the development of kidney stones; more than half of all cases of kidney stones in the population may be due to genetic factors. We also found that environmental factors such as diet contribute to the development of kidney stones. Drinking coffee or milk as well as eating fruits and vegetables reduced the risk of kidney stones. Calcium supplements were not associated with kidney stones. Future genetic studies of kidney stones need to obtain biologic samples from twins and family members.

#### **A Twin Study of Genetic and Dietary Influences on Nephrolithiasis: A Report from the Vietnam Era Twin (VET) Registry**

GOLDFARB DS, FISCHER ME, KEICH Y, GOLDBERG J

**Abstract:** *Background:* Nephrolithiasis is a complex phenotype that is influenced by both genetic and environmental factors. We conducted a large twin study to examine genetic and nongenetic factors associated with stones.

*Methods:* The VET Registry includes approximately 7500 male-male twin pairs born between 1939 to 1955 with both twins having served in the military from 1965 to 1975. In 1990, a mail and telephone health survey was sent to 11,959 VET Registry members; 8870 (74.2%) provided responses. The survey included a question asking if the individual had ever been told of having a kidney stone by a physician. Detailed

dietary habits were elicited. In a classic twin study analysis, we compared concordance rates in monozygotic (MZ) and dizygotic (DZ) twins. We also conducted a cotwin control study of dietary risk factors in twins discordant for stones.

*Results:* Among dizygotic twins, there were 17 concordant pairs and 162 discordant pairs for kidney stones. Among monozygotic twins, there were 39 concordant pairs and 163 discordant pairs. The proband concordance rate in MZ twins (32.4%) was significantly greater than the rate in DZ twins (17.3%) ( $\chi^2(2) = 12.8$ ;  $P < 0.001$ ), consistent with a genetic influence. The heritability of the risk for stones was

**CSP #256: VEITNAM ERA TWIN REGISTRY (CONT)**

56%. In the multivariate analysis of twin pairs discordant for kidney stones, we found a protective dose-response pattern of coffee drinking ( $P = 0.03$ ); those who drank 5 or more cups of coffee were half as likely to develop kidney stones as those who did not drink coffee ( $OR = 0.4$ , 95% CI 0.2, 0.9). Those who drank at least 1 cup of milk per day were half as likely to report kidney stones ( $OR = 0.5$ , 95% CI 0.3, 0.8). There were also marginally significant protective effects of increasing numbers of cups of tea per day and frequent consumption of fruits and vegetables. Other factors such as the use of calcium supplements, alcohol

drinking, consumption of solid dairy products, and the amount of animal protein consumed were not significantly related to kidney stones in the multivariate model.

*Conclusion:* These results confirm that nephrolithiasis is at least in part a heritable disease. Coffee, and perhaps tea, fruits, and vegetables were found to be protective for stone disease. This is the first twin study of kidney stones, and represents a new approach to elucidating the relative roles of genetic and environmental factors associated with stone formation.

*(Kidney Int 67:1053-1061, 2005)*  
*ERIC Seattle, WA*

# STAFF PUBLICATIONS

## Assessment of the Impact of a Patient Clinical Trials Handbook Among Pharmacy Students

GRAHAM AC, PHARM D, RAISCH DW, RPH, PhD, FYE CL, RPH, MS, CCRP, AND SATHER MR, PhD, FASHP

**Abstract:** *Background:* Patient education in the basic concepts of clinical trials is necessary to promote understanding of the informed consent process and enhance patients' decision-making. It has been suggested that patients' knowledge and attitudes are improved by being given general written information about clinical trials.

*Objective:* This pilot study was conducted to determine the effect of a patient education handbook on the knowledge, attitudes, and motivations of pharmacy students regarding clinical trials.

*Methods:* A patient clinical trials handbook was developed at a 7th-grade reading level for the Department of Veterans Affairs Cooperative Studies Program and tested in PharmD students. Students were randomized to the experimental group (received handbook) or the control group (no handbook). They were given 15 to 20 minutes to read the handbook, after which they were asked to respond to a questionnaire adapted from previous studies. The questionnaire included 25 true/false questions testing participants' knowledge of clinical trials, 5 questions on attitudes toward clinical trials scored on a 5-point Likert scale, and 6 questions concerning their motivation toward participation in hypothetical clinical trial scenarios scored on a 5-

point Likert scale. The experimental group was also asked to rate the informativeness, helpfulness, and clarity of the handbook on a 5-point Likert scale.

*Results:* There were 40 students in the experimental group and 50 in the control group. Knowledge scores were significantly higher in the experimental group compared with the control group (mean [SD] percentage of correct answers, 88.7% [8.0%] vs 82.6% [9.0%], respectively;  $P < 0.001$ ). Positive attitudes toward clinical trials were also increased in the experimental group compared with the control group; specifically, participants expressed significantly greater clarity of understanding of clinical trials (mean score, 1.4 [0.5] vs 0.8 [0.6];  $P < 0.001$ ) and relief associated with knowing about clinical trials (mean score, 0.8 [0.8] vs 0.4 [0.7];  $P = 0.017$ ). There were no between group differences in students' motivation to participate in the hypothetical clinical trial scenarios. A high proportion of students (95%) found the handbook informative, helpful, and understandable.

*Conclusions:* The patient clinical trials handbook increased knowledge and positive attitudes regarding clinical trials among pharmacy students participating in this study.

(*Clin Ther* 27:238-245, 2005)  
CSP CRPCC Albuquerque, NM

## Pharmacists' and Technicians' Perceptions and Attitudes Toward Dispensing Buprenorphine/Naloxone to Patients with Opioid Dependence

RAISCH DW, RPH, PHD, FUDALA PJ, PHD, SAXON AJ, MD, WALSH R, MS, RAC, CASADONTE P, MD, LING W, MD, JOHNSON BA, DSC, MD, MALKERNEKER U, MD, ORDORICA P, MD, WILLIFORD WO, PHD, AND SATHER MR, PHD, FASHP

**Abstract:** *Objective:* To assess the perceptions and attitudes of pharmacists and pharmacy technicians involved in an office-based opioid dependence treatment program using buprenorphine/naloxone.

*Design:* Cross-sectional attitudinal assessment.

*Setting:* Community, outpatient hospital, and clinic pharmacies.

*Participants:* Pharmacists and technicians participating in a clinical trial of opioid dependence treatment using buprenorphine/naloxone.

*Intervention:* Written and telephone surveys followed by interviews with open-ended items.

*Main Outcome Measures:* Attitudes and perceptions regarding opioid-dependent patients and use of buprenorphine/naloxone for treatment of opioid dependence.

*Results:* Pharmacies in seven states (New York, Virginia, Illinois, Florida, Texas, California, and Washington) participated in the clinical trial. A total of 40 pharmacists and

pharmacy technicians responded to the initial written survey, representing 27 of the 32 pharmacies (84%). Follow-up interviews were obtained from one individual at 30 of those pharmacies (93.8%). Most pharmacy personnel (77.5%) involved with this study were not more concerned about theft or break-ins and would be willing to participate in opioid dependence treatment as the medication became available commercially (70%). The majority of respondents (85%) indicated that patients did not cause problems at their pharmacies. Compared with their experiences in administering other narcotic medications, most respondents did not express increased concern regarding prescription forgery (75%) or diversion (80%) of buprenorphine/naloxone.

*Conclusion:* The majority of respondents expressed positive attitudes and perceptions regarding patients treated for opioid dependence with buprenorphine/naloxone.

(*J Am Pharm Assoc.* 45:23–32, 2005)  
CSP CRPCC Albuquerque, NM

## The Warfarin and Antiplatelet Therapy In Chronic Heart Failure Trial (WATCH): Rationale, Design, and Baseline Patient Characteristics

MASSIE BM, MD, KROL WF, PHD, AMMON SE, BSN, ARMSTRONG PW, MD, CLELAND JG, MD, COLLINS JF, ScD., EZEKOWITZ M, MD, JAFRI SM, MD, O'CONNOR CM, MD, PACKER M, MD, SCHULMAN KA, MD, TEO K, MD, AND WARREN S, PHARM D

**Abstract:** *Background:* The role of anticoagulation in patients with chronic heart failure has long been an area of interest and controversy. Traditionally the goal of anticoagulation has been to prevent embolic events, but recent trials also demonstrated that oral anticoagulation also prevents vascular events in patients with prior myocardial infarction, who constitute the majority of heart failure patients. Although antiplatelet agents also reduce postinfarction vascular events, few data are available in heart failure patients, and some evidence suggests that aspirin may also have the potential to worsen heart failure morbidity and mortality, possibly by interfering with the effects of angiotensin-converting enzyme inhibitors.

*Methods and Results:* The Warfarin and Antiplatelet Therapy in Chronic Heart Failure (WATCH) trial was undertaken to determine the optimal antithrombotic agent for heart failure patients. WATCH was a prospective-randomized trial in which symptomatic heart failure patients in sinus rhythm with ejection fractions  $\leq 35\%$  taking angiotensin-converting enzyme inhibitors (unless not tolerated) and diuretics were randomized to open-label warfarin (target International Normalized Ratio 2.5-3.0) or double blind antiplatelet therapy with aspirin 162 mg or clopidogrel 75 mg. Two primary comparisons were specified:

anticoagulation with warfarin vs antiplatelet therapy with aspirin and antiplatelet therapy with clopidogrel versus antiplatelet therapy with aspirin. The primary outcome is the composite of death from all causes, nonfatal myocardial infarction, and nonfatal stroke, analyzed as time to first event using the intent-to-treat approach. The secondary endpoint was the broader composite of death from all causes, nonfatal myocardial infarction, and non-fatal stroke, and hospitalizations for worsening heart failure, unstable angina pectoris, and systemic or pulmonary artery embolic events. Additional prespecified analyses include heart failure events, coronary events, and resource utilization.

*Conclusions:* Although the trial was designed to enter 4500 patients, it was terminated 18 months prematurely in June 2003 by the VA Cooperative Study Program because of poor enrollment with a resulting reduction of its power to achieve its original objective. This manuscript describes the study rationale, protocol design, and the baseline characteristics of the 1587 patients who were entered into the study. The WATCH trial will help define the optimal approach to antithrombotic therapy in the contemporary management of patients with chronic heart failure resulting from left ventricular systolic dysfunction.

(*Journal of Cardiac Failure* 10:101–112, 2004)  
CSP CRPCC Albuquerque, NM

## Pharmacoeconomic Analysis of Therapies for Pediatric Patients

RAISCH DW, PHD, HOLDSWORTH MT, PHARM D, BCOP, MARSHIK PL, PHARM D, CAMPBELL HM, PHARM D,  
VETERANS AFFAIRS COOPERATIVE STUDIES PROGRAM, CLINICAL RESEARCH PHARMACY

**Editorial:** Between birth and the age of 20 years, it is estimated that per capita healthcare expenditures will reach US \$24,834 (2000). Yet, 67% of new drugs with potential applications in pediatrics do not have labeling for such use. Furthermore, up to 80% of drugs used in pediatrics do not have approval for use in children. Attempts to stimulate drug approval for children have had minimal success. Systematic approaches have included the Pediatric (Final) Rule and the Food and Drug Administration (FDA) Modernization Act. The former required pediatric studies for certain newly marketed agents, while the latter included a patent exclusivity provision when pediatric studies were completed. Unfortunately, the final rule has had a limited impact on pediatric labeling, due to several options for deferment and waiver along with a recent lawsuit that resulted in a suspension of this rule. Although the patent exclusivity provision has led to some increases in pediatric testing through patent extension, incentive for testing is delayed until near patent expiration. Another factor

impacting pediatric drug testing is that illnesses are often rare in comparison with adults, thus return on investment of drug development capital is much lower. Furthermore, federal funding for drug research or safety testing in children is minimal compared with the funding for research amongst adults. Experience with use of drugs in pediatrics is often available, but research sufficient to achieve FDA labeling changes may not exist for many years after drug approval. However, societal gains from pediatric testing can be significant. Lack of pediatric research impacts on the availability of data for pharmacoeconomic (PE) analyses of pediatric therapies. In addition, when drug development in children is compared with adults, distinctive PE issues should be considered.

*Purpose:* In this editorial, we describe the status of PE research in pediatrics, discuss key differences between adult and pediatric PE studies, and provide recommendations for future research.

*(Expert Rev. Pharmacoeconomics Outcomes Res. 4:483–487, 2004)*  
CSP CRPCC Albuquerque, NM

## Immunologic Aspects of Chronic Fatigue Syndrome

TIMOTHY R GERRITY, DIMITRIS A PAPANICOLAOU, JAY D AMSTERDAM, STEPHEN BINGHAM, ASHLEY GROSSMAN,  
TERRY HEDRICK, RONALD B HERBERMAN, GERHARD KRUEGER, SUSAN LEVINE, NAHID MOHAGHEHPOUR,  
REBECCA C MOORE, JAMES OLESKE, CHRISTOPHER R SNELL

**Abstract:** Chronic fatigue syndrome (CFS) is a serious health concern affecting over 800,000 Americans of all ages, races, socioeconomic groups and genders. The etiology and pathophysiology of CFS are unknown, yet studies have suggested an involvement of the immune system. A symposium was organized in October 2001 to explore the possibility of an association between immune dysfunction and CFS, with special emphasis on the interactions between immune dysfunction and other abnormalities noted in the neuro-endocrine and autonomic nervous systems of individuals with CFS. This paper

represents the consensus of the panel of experts who participated in this meeting. Data suggest persons with CFS manifest changes in immune responses that fall outside normative ranges, but current research does not provide definitive evidence on whether these immune abnormalities are a cause or result of the illness. It has become clear the CFS cannot be understood based on single measurements of immune, endocrine, cardiovascular, or autonomic nervous system dysfunction. This panel encourages a new emphasis on multidisciplinary research into CFS.

*(Neuroimmunomodulation 11:351-357, 2004)*  
*CSPCC Perry Point, MD*

# The Relationship Between Antidepressant Medication Use and Rate of Suicide

ROBERT D. GIBBONS, PHD; KWAN HUR, PHD; DULAL K. BHAUMIK, PHD, J. JOHN MANN, MD

**Abstract:** *Background:* Approximately 30,000 people die annually by suicide in the United States. Although 60% of suicides occur during a mood disorder, mostly untreated, little is known about the relationship between antidepressant medication use and the rate of suicide in the United States.

*Objective:* To examine the association between antidepressant medication prescription and suicide rate by analyzing associations at the county level across the United States.

*Design:* Analysis of National Vital Statistics from the Centers for Disease Control and Prevention.

*Setting:* All US counties.

*Participants:* All US individuals who committed suicide between 1996 and 1998.

*Main Outcome Measures:* National county-level suicide rate data are broken down by age, sex, income, and race for the period of 1996 to 1998. National county-level antidepressant prescription data are expressed as number of pills prescribed. The primary outcome measure is the suicide rate in each county expressed as the number of suicides for a given population size.

*Results:* The overall relationship between antidepressant medication prescription and suicide rate was not significant. Within individual classes of antidepressants, prescriptions for

selective serotonin reuptake inhibitors (SSRIs) and other new-generation non-SSRI antidepressants (eg, nefazodone hydrochloride, mirtazapine, bupropion hydrochloride, and venlafaxine hydrochloride) are associated with lower suicide rates (both within and between counties). A positive association between tricyclic antidepressant (TCA) prescription and suicide rate was observed. Results are adjusted for age, sex, race, income, and county-to-county variability in suicide rates. Higher suicide rates in rural areas are associated with fewer antidepressant prescriptions, lower income, and relatively more prescriptions for TCAs.

*Conclusions:* The aggregate nature of these observational data preclude a direct causal interpretation of the results. A high number of TCA prescriptions may be a marker for those counties with more limited access to quality mental health care and inadequate treatment and detection of depression, which in turn lead to increased suicide rates. By contrast, increases in prescriptions for SSRIs and other new-generation non-SSRIs are associated with lower suicide rates both between and within counties over time and may reflect antidepressant efficacy, compliance, a better quality of mental health care, and low toxicity in the event of a suicide attempt by overdose.

(Arch Gen Psychiatry 62:165-172, 2004)  
CSPCC Hines, IL

# Estimation and Classification of fMRI Hemodynamic Response Patterns

ROBERT D. GIBBONS, NICOLE A. LAZAR, DULAL K. BHAUMIK, STANLEY L. SCLOVE, HUA YUN CHEN,  
KEITH R. THULBORN, JOHN A. SWEENEY, KWAN HUR, AND DAVE PATTERSON

**Abstract:** In this paper, we propose an approach to modeling functional magnetic resonance imaging (fMRI) data that combines hierarchical polynomial models, Bayes estimation, and clustering. A cubic polynomial is used to fit the voxel time courses of event-related design experiments. The coefficients of the polynomials are estimated by Bayes estimation, in a two-level hierarchical model, which allows us to borrow strength from all voxels. The

voxel-specific Bayes polynomial coefficients are then transformed to the times and magnitudes of the minimum and maximum points on the hemodynamic response curve, which are in turn used to classify the voxels as being activated or not. The procedure is demonstrated on real data from an event-related design experiment of visually guided saccades and shown to be an effective alternative to existing methods.

*(Neuro Image 22: 804-814, 2004)*  
CSPCC Hines, IL

## Inverse Association Between Prostatic Polyunsaturated Fatty Acid and Risk of Locally Advanced Prostate Carcinoma

VINCENT L. FREEMAN, MD, MPH; MOHSEN MEYDANI, DVN, PhD;  
KWAN HUR, PhD; ROBERT C. FLANIGAN, MD

**Abstract:** *Background:* An effect of fatty acids has been implicated in men with advanced-stage prostate carcinoma and in men who have died of the disease. To evaluate the influence of fatty acids in men with prostate carcinoma at earlier stages, the authors examined the relation between prostatic concentrations of fatty acids and locally advanced prostate carcinoma in men with clinically organ-confined disease.

*Methods:* Fatty acids were measured by capillary gas chromatography in fresh, nonmalignant prostate tissue specimens collected during surgery from 196 men undergoing radical prostatectomy for localized prostate carcinoma. Two-sided, two-sample Student *t* tests compared mean concentrations in men with extraprostatic disease ( $pT_{3-4}N_{0-1}M_0$ ) with control men with organ-confined disease. Logistic regression accounted for clinical stage, prostate-specific antigen level, Gleason sum, and other factors.

*Results:* Percent total prostatic polyunsaturated fatty acid (PUFA) was found to be inversely associated with risk of locally advanced prostate carcinoma ( $n = 52$ ) (odds ratio [OR] = 0.93, 95% confidence interval [95% CI], 0.87-0.99;  $P = 0.035$ ). Risk of seminal vesicle involvement accounted for this association (OR = 0.86, 95% CI, 0.78-0.95;  $P = 0.003$ ). Percent  $\omega$ -3 fatty acid (eicosapentanoic + docosahexanoic acids) and percent arachidonic acid also were found to be inversely related to the risk of seminal vesicle involvement (OR = 0.52, 95% CI, 0.30-0.90;  $P = 0.02$ ; and OR = 0.84, 95% CI, 0.75-0.95;  $P = 0.005$ , respectively).

*Conclusions:* Prostatic PUFA levels appear to influence the risk of locally advanced prostate carcinoma in men with clinically organ-confined disease. This association may be mediated through the immune system.

(*Cancer* 101:2744-2754, 2004)  
CSPCC Hines, IL

# **A Measure of Neurobehavioral Functioning After Coma.**

## **Part I: Theory, Reliability, and Validity of the Disorders of Consciousness Scale**

THERESA LOUIS-BENDER PAPE, DRPH, MA, CCC-SLP/L; ALLEN W. HEINEMANN, PHD, ABPP,  
JAMES P. KELLY, MA, MD; ANITA GIOBBIE HURDER, MS; SANDRA LUNDGREN, PHD, LP, ABPP

**Abstract:** This longitudinal validation study describes the psychometric properties of the Disorders of Consciousness Scale (DOCS). This is Part I of a two-part series. Part II illustrates and describes the clinical and scientific implementation of the DOCS measure. The study was conducted at one intensive care unit, two acute rehabilitation hospitals, and one long-term acute chronic care hospital. Participants were unconscious after severe brain injury (BI). We conducted interrater reliability analyses using ratings from interdisciplinary pairs. Results indicated a higher-than-expected level of agreement and no significant difference between any pairs ( $\chi^2=8_{5df}$   $p=0.15$ ) ( $df$ =degrees of

freedom). Examinations of ratings by discipline groups indicated that the DOCS is impacted minimally by discipline. Validity analyses demonstrate that 23 of 34 test stimuli remain stable over time with no floor or ceiling effect. DOCS measures obtained within 94 days of injury predicted recovery of consciousness up to 1 year after injury (c-indices of 0.70 and 0.86). Positive (0.71) and negative (0.68) predictive values indicate that the DOCS predicts recovery and lack of recovery. Twenty-three of the DOCS test stimuli produce a reliable, valid, and stable measure of neurobehavioral recovery after severe BI that predicts recovery and lack of recovery of consciousness 1 year after injury.

*(J Rehabil Res Dev 42(1):2-18, 2005)*  
CSPCC Hines, IL

## **Influence of Race on Kidney Transplant Outcomes Within and Outside the Department of Veterans Affairs**

CHAKKERA HA, O'HARE AM, JOHANSEN KL, HYNES D, STROUPE K, COLIN PM, CHERTOW GM

**Abstract:** Inferior outcomes after kidney transplantation among African Americans are poorly understood. It was hypothesized that unequal access to medical care among transplant recipients might contribute to worse post-transplantation outcomes among African Americans and that racial disparities in kidney transplant outcomes would be less pronounced among patients who receive health care within versus outside the Department of Veterans Affairs (VA), because eligible veterans who receive care within the VA are entitled to receive universal access to care, including coverage of prescription drugs. A study cohort of 79,361 patients who were undergoing their first kidney transplant in the United States between October 1, 1991, and October 31, 2000, was assembled, with

follow-up data on graft survival obtained through October 31, 2001. After multivariable proportional hazards adjustment for a wide range of recipient and donor characteristics, African-American patients were at increased risk for graft failure compared with non-African-American patients (relative risk [RR] 1.31; 95% confidence interval [CI] 1.26 to 1.36). African-American race was associated with a similarly increased risk for graft failure among patients who were VA users (RR 1.31; 95% CI 1.11 to 1.54) and non-VA users (RR 1.31; 95% CI 1.26 to 1.36). In conclusion, racial disparities in kidney transplant outcomes seem to persist even in a universal access-to-care system such as the VA. Reasons for worse outcomes among African Americans require further investigation.

*(J Am Soc Nephrol 16(1): 269-277, 2005)*  
CSPCC Hines, IL

# Three Surveillance Strategies for Vancomycin-Resistant Enterococci in Hospitalized Patients: Detection of Colonization Efficiency and a Cost-Effectiveness Model

LEE TA, HACEK DM, STROUPE KT, COLLINS SM, PETERSON LR

**Abstract:** *Objective:* To evaluate the cost-effectiveness and detection sensitivity associated with three active surveillance strategies for the identification of patients harboring vancomycin-resistant enterococci (VRE) to determine which is the most medically and economically useful.

*Design:* Culture for VRE from 200 consecutive stool specimens submitted for *Clostridium difficile* culture. Following this, risk factors were assessed for patients whose culture yielded VRE, and a cost-effectiveness evaluation was performed using a decision analytic model with a probabilistic analysis.

*Setting:* A 688-bed, tertiary-care facility in Chicago, Illinois, with approximately 39,000 annual admissions, 7,000 newborn deliveries, 56,000 emergency department visits, and 115,000 home care and 265,000 outpatient visits.

*Subjects:* All stool specimens submitted to the clinical microbiology

laboratory for *C. difficile* culture from hospital inpatients.

*Results:* From 100 stool samples submitted for *C. difficile* testing, we identified 5 patients with VRE in non-high-risk areas not screened as part of our routine patient surveillance. Medical record review revealed that all 5 had been hospitalized within the prior 2 years. Three of 5 had a history of renal impairment. The strategy that would involve screening the greatest number of patients (all those with a history of hospital admission in the prior 2 years) resulted in highest screening cost per patient admitted (\$2.48), lower per patient admission costs (\$480), and the best survival rates.

*Conclusion:* An expanded VRE surveillance program that encompassed all patients hospitalized within the prior 2 years was a cost-effective screening strategy compared with a more traditional one focused on high-risk units.

(*Infect Control Hosp Epidemiol* 26(1):39-46, 2005)  
CSPCC Hines, IL

## Methodology of an Ongoing, Randomized, Controlled Trial to Improve Drug Use for Elderly Patients with Chronic Heart Failure

MURRAY MD, YOUNG JM, MORROW DG, WEINER M, TU W, HOKE SC, CLARK DO, STROUPE KT, WU J, DEER MM, BRUNER-ENGLAND TE, SOWINSKI KM, SMITH FE, OLDRIDGE NB, GRADUS-PIZLO I, MURRAY LL, BRAATER DC, WEINBERGER M

**Abstract:** *Background:* Medications can improve the functioning and health-related quality of life of patients with chronic heart failure (CHF) and reduce morbidity, mortality, and costs of treatment. However, patients may not adhere to therapy. Patients with complex medication regimens and low health literacy are at risk for nonadherence.

*Objective:* The primary goal of this project is to develop and assess a multilevel pharmacy-based program to improve patient medication adherence and health outcomes for elderly CHF patients with low health literacy.

*Methods:* In this 4-year, controlled trial, patients aged 50 years with a diagnosis of CHF who are being treated at Wishard Health Services (Indianapolis, Indiana) are randomly assigned to pharmacist intervention or usual care. Intervention patients receive 9 months of pharmacist support and 3 months of postintervention follow-up. The intervention involves a pharmacist providing verbal and written education, icon-based labeling of medication containers, and therapeutic monitoring. The pharmacist identifies patients' barriers to appropriate drug use, coaches them on overcoming these barriers, and coordinates medication use issues with their primary care

providers. Daily updates of relevant monitoring data are delivered via an electronic medical record system and stored in a personal computer system designed to support pharmacist monitoring and facilitate documentation of interventions. To measure medication adherence objectively, electronic monitoring lids are used on all CHF medications for patients in both study groups. Other assessments include self-reported medication adherence, results of echocardiography (eg, ejection fraction), brain natriuretic peptide concentrations, and health-related quality of life. Health services utilization, refill adherence, and cost data derive from electronic medical records. After completion of this study, the data can be used to assess the effectiveness and cost-effectiveness of our intervention.

*Results:* One hundred twenty-two patients have been assigned to receive the intervention and 192 to receive usual care.

*Conclusions:* Our study aims to improve patients' knowledge and self-management of their medication and to improve medication monitoring in a multilevel pharmacy-based intervention. By doing so, we intend that the intervention will improve the health outcomes of elderly patients with CHF.

(*Am J Geriatr Pharmacother* 2(1):53-65, 2004)  
CSPCC Hines, IL

## Health Care and Medication Costs and Use Among Older Adults with Heart Failure

STROUPE KT, TEAL EY, WEINER M, GRADUS-PIZLO I, BRATER DC, MURRAY MD

**Abstract:** *Background:* Heart failure disproportionately affects older adults for whom multiple medications are prescribed to prevent exacerbations and hospitalization. To target interventions effectively, it is important to understand the association of medication acquisition with health care utilization and costs.

*Methods:* We used electronic medical records from an urban public health care system to identify patients aged  $\geq 50$  years who had a diagnosis of heart failure. We assessed the association between inappropriate or appropriate medication supplies and hospitalization and costs using multivariable analyses that adjusted for demographic characteristics, prior health care use, health status, and insurance status.

*Results:* Total health care costs for treating 1554 patients with heart failure from 1996 to 2000 were \$36.6

million (in 2000 dollars). Less than a third of patients received appropriate medication supplies (between 90% and 110% of the supplies needed) annually. Compared with patients with appropriate supplies, the odds of hospitalization were greater among those with undersupplies (odds ratio [OR] = 3.1; 95% confidence interval [CI]: 2.3 to 4.2;  $P < 0.0001$ ) or oversupplies (OR = 2.0; 95% CI: 1.7 to 2.4;  $P < 0.0001$ ). Total costs were 25% higher for patients with undersupplies (95% CI: 7% to 30%;  $P = 0.0009$ ) than for those with appropriate supplies.

*Conclusion:* Among adults with heart failure, inappropriate medication supplies were associated with increased hospitalization and higher costs. Monitoring medications supplies from electronic medical records may be a useful component of programs aiming to improve care while managing costs.

(*Am J Med* 116(7):443-50, 2004)  
CSPCC Hines, IL

# Repair of Ventral Incisional Hernia: the Design of a Randomized Trial to Compare Open and Laparoscopic Surgical Techniques

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**Abstract:** The appearance of incisional hernia after laparotomy closure continues to be an important postoperative complication. Advances in anesthesia techniques, adequate prevention and treatment of infection during surgery, and the use of new suture materials have reduced the incidence of incisional hernia. Nevertheless, incisional hernia still occurs in 0.5% to 11% of all laparotomies performed. There are many different techniques currently in use for ventral incisional hernia (VIH) repair. Among these techniques, laparoscopic repair has been reported to be superior to open repair because of less pain, a lower recurrence rate, fewer complications, and earlier return to work. The lower rate of complications may be a major contributing factor to a reduced incidence of recurrence. However, laparoscopic repair requires expensive equipment and supplies, and it is not yet generally accepted. No conclusive randomized trial of sufficient size and power has been done to establish the "gold standard" for VIH

repair, and surgeons are calling for proper evaluation. This randomized clinical trial conducted at 3 Veterans Affairs medical centers was designed to compare open VIH repair with the laparoscopic technique with respect to postoperative complications at 8 weeks, health-related quality of life, postoperative pain, time to return to normal activities, patient satisfaction, and recurrence rate of the hernia at 1 and 2 years. The study design calls for randomization of 314 men over a period of 32 months. This will allow  $\geq 80\%$  power to detect a 15% difference in complication rates between the 2 surgical procedures at 8 weeks. Randomization is stratified by hospital, whether the hernia is recurrent and whether the patient's body mass index is  $\geq 35$  or  $<35$ . We report the design and beginning of a multicenter trial comparing open and laparoscopic VIH repair. When completed, this study will provide surgeons and their patients with information that will help guide their choice of surgical technique.

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CSPCC Hines, IL

## Cardiovascular Training Effect Associated with Polestriding Exercise in Patients with Peripheral Arterial Disease

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**Abstract:** Because individuals with claudication pain, secondary to peripheral artery disease (PAD) are limited in both walking speed and duration, the benefits of walking exercise may be insufficient to yield a cardiovascular training effect. The objectives of this analysis were to determine whether polestriding exercise training, performed by persons with PAD, would improve exercise endurance, elicit a cardiovascular training benefit, and improve quality of life (QoL). Persons ( $n = 49$ ) whose claudication pain limited their exercise capacity were randomized into a 24-week polestriding training program ( $n = 25$ ,  $65.8 \pm 7.1$  years of age) or a non-exercise attention control group ( $n = 24$ ,  $68.0 \pm 8.6$  years of age). Those assigned to the polestriding group trained 3 times weekly. Control group subjects came to the laboratory biweekly for ankle blood pressure measurements. A symptom-limited ramp treadmill test, ratings of perceived leg pain, and QoL data (using the Short Form-36) were obtained at baseline

and upon completion of training. After 24 weeks of polestriding training, subjects increased their exercise endurance from  $10.3 \pm 4.1$  minute to  $15.1 \pm 4.5$  minute. This was significantly greater than control group subjects whose exercise endurance declined (from  $11.2 \pm 4.7$  to  $10.3 \pm 4.7$  minute;  $P < .001$ ). Relationships between systolic blood pressure ( $P < 0.001$ ), heart rate ( $P = .04$ ), rate pressure product ( $P = .05$ ), oxygen uptake ( $P = .016$ ), and perceived leg pain ( $P = .02$ ) and exercise time improved from the baseline symptom-limited treadmill test to the 6-month symptom-limited treadmill test in the polestriding group compared to the control group. The improvement in the physical component summary score of the Short Form-36 was also greater in the polestriding group ( $P = .031$ ). Polestriding training significantly improved the clinical indicators of cardiovascular fitness and QoL, and decreased symptoms of claudication pain during exertion.

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## A SAS® Macro for Producing Customized Reports

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**Abstract:** To produce highly customized reports, we use DATA \_Null\_ and PUT statements. In the process, we often need to consider the unique requirements and specifications for a given report. Those requirements and specifications include but are not limited to the following: column positions and headings, row label width and indentation, blank lines between rows, number of columns that appear on each page, page breaks, and other design

specifications. The work quickly becomes tedious, repetitive, and time consuming.

A question naturally arose from this process, namely, can we generalize the above procedure by creating a SAS macro to accomplish the objective? This paper presents a SAS macro that aims to provide a solution to this problem. We also demonstrate the construction of such a macro using a concrete example.

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CSPCC Palo Alto, CA*

## About the Cooperative Studies Program:

***Mission:*** *To Advance the Health and Care of Veterans through Collaborative Research Studies that Produce Innovative and Effective Solutions to National Healthcare Problems.*

***Vision:*** *We are the Premier Research Program Conducting Multi-Center Studies with World-Wide Impact on Healthcare.*

Cooperative Studies first began in the VA system in 1946, with landmark research in the treatment of tuberculosis. This research instituted a framework that evolved into the present day Cooperative Studies Program.

The Cooperative Studies Program (CSP) was established as a division of the Medical Research Service in 1972. Traditionally, it has coordinated multi-center clinical trials of new therapies or new uses for standard treatments. These trials often form the basis upon which new treatments are accepted into clinical practice.

In 1990, a program to facilitate multi-site health services research, Cooperative Studies in Health Services, was created within the Health Services Research and Development Service. These programs were merged in 1996 resulting in the Cooperative Studies Program becoming its own research service in VA's Office of Research and Development. To broaden the scope of CSP research, new Epidemiology Research Information Centers were established in 1998 under the umbrella of the CSP. In 2003, the CSP was reorganized with portions of the former Medical Research Service to form the foundation of the new Clinical Science Research & Development Service. Since its beginnings, the CSP continues to serve as a leader in clinical research and to produce key findings aimed at advancing the health and care of our veterans.

CSP utilizes the power of multi-center studies to achieve more definitive findings than might be available in single-site studies. With its many hospitals and integrated networks, the Veterans Health Administration is an ideal place to conduct large-scale cooperative research across a range of fields. Such work has a direct impact on veterans' clinical care, and provides a national resource to the health care community within the VA and beyond. Over 100 VA hospitals nationwide are involved in Cooperative Studies, and many thousands of veteran patients have participated in CSP research.

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